REFERENCE

164

THE CANADIAN
NATURAL SWEETENER INDUSTRY

A REPORT BY

THE TARIFF BOARD

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REFERENCE 164

A REPORT OF AN INQUIRY
by the
TARIFF BOARD
respecting
THE CANADIAN
NATURAL SWEETENER INDUSTRY

This report is made pursuant to a reference by the Minister of Finance under section 4(2) of the Tariff Board Act.

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*Mr. A.C. Kilbank retired January 31, 1987 and was replaced on the panel by Mr. K.C. Martin.

Explanation of Symbols Used

- Denotes zero or none reported

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SECTION I: INTRODUCTION

Terms of Reference

1. This is the report of the Tariff Board to the Minister of Finance following its inquiry made pursuant to section 4(2) of the Tariff Board Act into the current state and future economic prospects of the Canadian natural sweetener industry. The terms of reference for the inquiry are set out in a letter, dated June 26, 1986, from the former Minister of State (Finance), the Honourable Barbara McDougall, to the Chairman of the Tariff Board. The Minister's letter is as follows:

> I am writing pursuant to Section 4(2) of the Tariff Board Act which empowers the Tariff Board to make inquiry into any matter on which the Minister of Finance desires information. The subject which I am referring to the Board for inquiry is the current state and future economic prospect of the Canadian natural sweetener industry.
>
> In structuring its inquiry, I would ask that the Board be in a position to provide an overview of the current natural sweetener market in Canada including, inter alia: the relative shares of the market supplied by domestic producers and refiners of sugar beets, by domestic refiners of imported raw sugar, by the domestic high fructose corn syrup industry, and by imports of refined sugar; the employment generated in the domestic production of natural sweeteners; the industrial and consumer demand for natural sweeteners; the extent to which industrial users of natural sweeteners rely on imports of sugar at world prices in order to maintain their competitiveness against imports of products containing sugar; the pricing practices and competitive efficiency of domestic sugar refiners in comparison with their U.S. counterparts; and the reasons for the competitive problems of the sugar beet and high fructose corn syrup industries vis-à-vis imports.
>
> Furthermore, I would ask that the Tariff Board assess the longer term economic prospects of domestically produced natural sweeteners in light of current and projected domestic and international sweetener market conditions. In the event that your assessment concludes that market conditions will put competitive pressures on the domestic sugar beet and high fructose corn

> syrup industries into the foreseeable future, I would request that the Board examine the scope for possible Government action to assist these industries, taking into account existing programs and legislation. In so doing, the Board should consider, inter alia, the effects of any possible action on the competitive position of cane sugar refiners and industrial users of natural sweetening agents, on overall employment, on costs to consumers, on possible expenditure implications for the Government, and on Canada's commitments under international trade agreements.
>
> I would ask that the Tariff Board report to me at the latest nine months from the date of this letter.

The Organization of This Report

2. This Report is in four Sections, this Introduction being the first. Section II, comprising Chapters 1 to 6, provides the background and analysis of relevant data. In Section III, comprising Chapters 7 to 11, the briefs, other submissions and evidence are summarized. Section IV, comprising Chapters 12 to 14, responds to the particular requests of the Minister. Chapter 12 is an overview of the current natural sweetener market in Canada, with particular reference to the factors mentioned in the second paragraph of the Minister's letter. Chapter 13 provides an assessment of the longer term economic prospects of domestically produced natural sweeteners. Having concluded that market conditions will put competitive pressures on the domestic sugar beet industry, the Board, in Chapter 14, examines the scope for possible government action to assist that industry and describes the alternative courses of action available.

The Inquiry Process

3. The Board has held two public hearings in connection with this Reference. The first, on September 4, 1986, was preliminary in nature. Its purpose was to review, in consultation with interested parties, the scope of the inquiry in order to elicit precise submissions that would help the Board in its task of evaluating the options available. The

final public hearing was held on December 2 to 4, 1986. More than 100 briefs and submissions were received by the Board respecting this inquiry. They expressed the views of Canadian producers of a variety of sweeteners, and of sugar beet and corn growers, industrial users of sugar, Canadian consumers, exporting countries, and other interested parties.

4. Prior to the preliminary hearing, a staff background paper was prepared and distributed in August, 1986, to make available to the public the data relevant to the issues involved in the inquiry. In November, 1986, prior to the final hearing, a second staff background paper was distributed to all interested parties. This second, more detailed, staff paper presented additional information assembled by Board staff together with an initial analysis of some of the principal issues.

5. On July 16, 1986, the Chairman, Mr. Donald R. Yeomans, issued a Notice appointing Mr. Alfred C. Kilbank, Mr. R. Keith Matthie and himself as the hearing panel for this inquiry,(1) to hold such public hearings and to conduct such field visits as were deemed necessary and to report back thereon to the Board. In order to inform itself as to the technical and other aspects of the Canadian natural sweetener industry, the panel visited the sugar beet producing area of Alberta, a corn grower, a beet processor, a sugar cane refinery and a high fructose corn sweetener processor.

6. The Board has had available to it in preparing this report substantial information as provided by various data banks and published material. Nonetheless, in assembling a complete data base some difficulties were encountered in obtaining current statistics. The Board staff, therefore, by way of questionnaires sent to growers and manufacturers, has sought to obtain a more complete and up-to-date information base. The

---

(1) Mr. K.C. Martin was appointed to the hearing panel in November, 1986 in anticipation of the retirement of Mr. Kilbank. Mr. Kilbank retired from the Board in January, 1987.

analysis presented in this report is based for the most part on the 1980 to 1985 period, with 1985 constituting the latest year for which complete data are available. Because the general sugar and sweetener situation has not changed significantly from 1965 to 1986, the 1985 year remains representative of the current environment. 1986 data are included whenever possible, although in some instances 1986 year figures are presented as estimates only.

7. In order to protect certain data submitted in confidence to the Board, percentages or indexed tables and charts have been used in some cases.

SECTION II: BACKGROUND TO THE CANADIAN NATURAL SWEETENER INDUSTRY

CHAPTER 1: NATURAL SWEETENER PRODUCTS

1.1 This inquiry deals with natural sweeteners. These are commodities, derived from natural sources, used as the basic sweetening agents for many foods and beverages. High in calories, they are at times referred to as nutritive sweeteners. Sugar is a natural sweetener, as is honey, maple syrup and maple sugar. Glucose, dextrose and high fructose corn syrup (HFCS), frequently designated "corn sweeteners", are natural sweetening agents derived from corn.

1.2 Artificial sweeteners are chemical products with sweetening properties far surpassing those of sugar, e.g., saccharin, aspartame. Either low or lacking in caloric content, these man-made products are at times referred to as low, or non-caloric or non-nutritive sweeteners. These sweeteners are not part of this inquiry, although their potential impact on the use of natural sweeteners is considered.

1.3 Sugar is made from sugar cane and sugar beets. The production of cane sugar usually involves two steps; production of raw sugar from the cane, and refining the raw sugar to the required level of purity. Raw sugar is produced (partially refined) in those countries where sugar cane is grown and harvested. Cane sugar is normally exported in the raw form with final refining taking place in the importing country.

1.4 Normally, beet sugar is produced by a single process beginning with the raw beets and ending with pure granular white sugar. Therefore, trade in beet sugar consists almost exclusively of the fully refined product.

1.5 Molasses is the main by-product of refining raw sugar. Revenues obtained from the sale of molasses are, however, relatively small - less than 5 per cent of total revenues - compared to the sales of the main product, sugar. The processing of sugar beets yields beet pulp in addition to beet-derived molasses. These secondary sugar beet products contribute on average 15 per cent to total revenues.

1.6 High fructose corn syrup (HFCS) is a product of the catalytic action of several enzymes on starch produced by the wet milling of corn. The process results in a clear liquid containing 42%, 55% or 90% fructose. The initial step is the production of 42-HFCS. Subsequently some of the 42-HFCS is transformed to 90-HFCS; the blending of these two syrups results in 55-HFCS.

1.7 The wet milling of corn produces, besides HFCS, corn gluten feed, corn gluten meal, and corn germ. These by-products account by weight for almost one third of the corn being processed. The sales value of these secondary goods recover, on average, 55 per cent of the original cost of the corn and constitute between 20 and 25 per cent of gross revenues from HFCS operations. Corn germ, after the extraction of corn-oil, like gluten feed and meal, is utilized as animal feed.

1.8 Glucose corn syrup, a natural sweetener, is produced by either the controlled hydrolysis of edible (corn) starch or by enzymatic action on corn starch. Dextrose syrup, about two-thirds as sweet as ordinary sugar, is the other sweetener made from corn.

CHAPTER 2: THE WORLD ENVIRONMENT FOR SUGAR

2.1 Sugar has historically been a commodity subject to wide swings in price.(1) However, in recent years there has been a particularly pronounced fall in its free market price, from 74.0 Cdn.¢/kg in 1980 to as low as 12.2 Cdn.¢/kg in 1985. In large part this decline results from the domestic policies followed by the European Economic Community (EEC) and the United States, with the EEC increasing free market supplies and the United States reducing its import demand. As a result, sugar prices which had peaked at a record high in 1980 dropped to an all time low in 1985. In this Chapter, as an overview, world trade in raw sugar, world price trends, the sugar policies of the United States and the EEC and the impact of these policies are discussed.

World Trade

2.2 In 1985 world trade in sugar, measured by net exports,(2) totalled 23.9 million tonnes or nearly 24 per cent of world production of sugar in that year, estimated at 99.2 million tonnes. The percentage exported was the same in 1965; however, at that time world output was much lower, 63.8 million tonnes. World trade was also appreciably less in 1965, 15.6 million tonnes.

2.3 A portion of world trade, in 1985 almost 5 million tonnes, was subject to bilateral state government agreements in the form of contracts for the sale of a fixed amount of raw sugar at a fixed price. This includes exports by Cuba to socialist countries and preferential EEC imports from designated African, Caribbean and Pacific countries covered by the Lomé Convention.

---

(1) A more detailed historical background is presented in Annex A.

(2) Net exports are equal to a country's exports minus its imports.

2.4 Trade in sugar not covered by these bilateral government agreements amounted to 18.8 million tonnes in 1985. This is designated the "Free Market", in which the free supply and demand determines the world price of sugar. This market comprised close to 19 per cent of the world sugar production in that year. This proportion has changed very little over the past two decades.

2.5 A recent study(1) has pointed out that the major sugar producing/trading countries have subsidized prices for their entire output or a large share of it. Consequently, these countries produce more sugar than is required. In 1983, nearly two-thirds of world sugar production, and over one-half of consumption, took place in just 13 nations. These same nations dominate world trade in sugar, accounting for over three-fourths of all exports and half of world imports. Each nation intervenes directly in its domestic sweetener market and most regulate both producer and consumer price. Table 2.1 on the following page describes briefly the various policies employed in the major producing/consuming countries or regions and includes the principal pertinent statistics.

---

(1) Hoff, Frederic L. and Lawrence, Max, Implications of World Sugar Markets, Policies and Production Costs for U.S. Sugar, United States Department of Agriculture, ERS543, Nov. 1985.

TABLE 2.1: MAJOR SUGAR PRODUCING AND IMPORTING COUNTRIES, GOVERNMENT SUGAR POLICIES

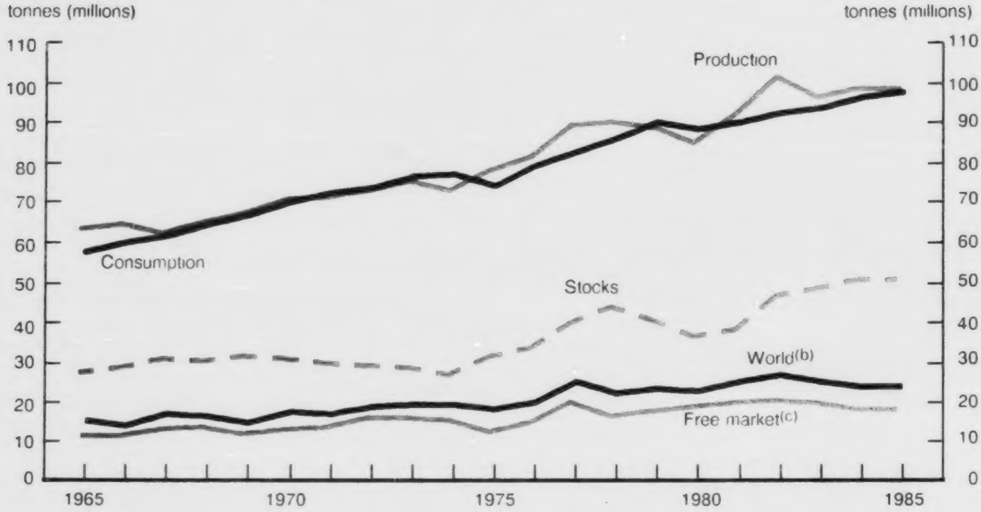
Country or Region	Share of World: 1983 Production	Share of World: 1983 Consumption	Share of World: 1983 Trade	Price or Production Polices	Trade Policies
	- Per Cent -				
Exporters:					
Cuba	7.7	0.8	26.9	Administered prices and production	Government sales
European Community	12.7	11.3	13.4	Producer price guarantees and import regulation	Export subsidies
Brazil	9.9	6.4	11.1	Minimum producer prices and maximum mill price	Sales by quasi-government corporation
Australia	3.4	0.9	9.5	Fixed domestic prices and production quotas	Sales by quasi-government corporation
Thailand	3.2	0.6	4.7	Regulated producer, retail and export prices	Government controlled sales
Philippines	2.2	1.3	4.0	Regulated producer and retail prices	None
Dominican Republic	1.2	0.2	4.0	Government control of production	None
Argentina	1.7	1.1	2.8	Guaranteed minimum farm price, production quotas	Rebate on exports
South Africa	1.7	1.4	1.6	Industry-controlled price stabilization program	Sales by industry
TOTAL	43.7	24.0	78.0		
Importers:					
Soviet Union	9.1	13.9	25.0	Administered producer and consumer prices	Government purchases
United States	5.4	8.7	10.6	Raw sugar price support; import restrictions	Duties, fees, and quotas
Japan	0.9	3.0	8.1	Minimum producer prices; import levies	Import levies
China	4.2	5.9	6.8	Administered prices	Government purchases
TOTAL	19.6	31.5	50.5		

Source: International Sugar Organization, Sugar Year Book, London, England, 1983; World Sugar Journal, and Economic Perspectives, Inc., McLean, Va., 1984.

2.6 Figure 2.A depicts total world sugar production, consumption and stocks as well as world trade (also see Appendix Table 1).

Figure 2A

Sugar - World Production, Consumption, Stocks and Trade, 1965-1985(a)



(a) Data is in raw value.
(b) Total world exports less imports, or world net exports.
(c) World net exports less exports under government-to-government agreements.
Source: Appendix Table 1

The World Price of Sugar

2.7 The world price(1) of sugar, raw value basis, in 1985 averaged 12.2 Cdn.¢/kg. Figure 2.B indicates that the price of sugar has increased in the long run, and it is clear that in the past the price of sugar has fluctuated in a cyclical pattern. These cycles comprise periods of seven years and, on occasion, periods of about ten years. Seven-year cycles usually have two years of very high prices, well above the average price during the cycle as a whole, and five years of prices below that average. World price changes since 1950 are illustrated on Figure 2.B on the following page:

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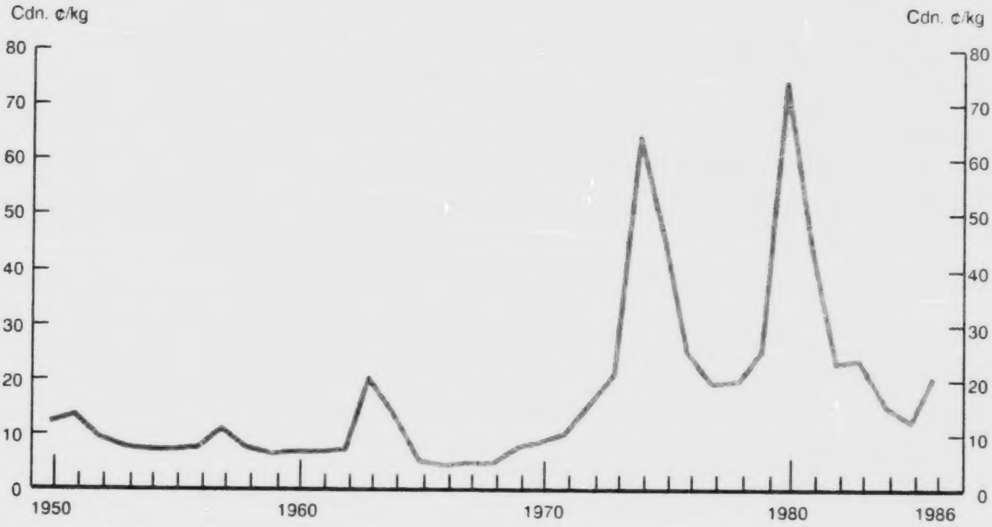
(1) World sugar price is based on International Sugar Organization data.

Figure 2B

Sugar – World Price, 1950-1986



Source: Appendix Table 2.

2.8 The nature and causes of the cyclical behaviour of sugar prices is quite similar to that for other agricultural products in that the principal factor affecting sugar prices is a lagged response of world supply to rising prices caused by greater world demand, followed by periods of excess supply and correspondingly depressed price levels. The growing characteristics of cane sugar are such that the first sugar cane harvest takes place, at the earliest, some 18 months to two years after planting, while sugar beet is an annual crop six to eight months between planting and harvesting. As a result, cane producing countries are slower to expand production in response to higher prices than are sugar beet producing countries. At the same time, cane producers are at a disadvantage if market expectations suggest a reduction in output as, having incurred the initial costs of planting, cane does not need replanting for 5 years. Beet farmers, however, can adjust to changes in the world price for sugar more readily. These agronomic phenomena play an important role in the formation of sugar price on the world market.

2.9 Supply, demand and price are determined simultaneously and the process of mutual interaction makes difficult the determination of causality. A shift in the balance of demand and supply affects prices which in turn affect future supply and demand and thus the future level of prices. A major influence upon price is the volume of sugar traded in the free market. Because a large part of world production is not traded at all and a substantial portion of that traded does not enter the free market, relatively small unanticipated shortfalls or surpluses can lead to extensive changes in sugar stocks and to major price disturbances.

2.10 In Figure 2.B, the modest underlying upward trend in sugar prices reflects a general increase in the cost of producing sugar.(1) The cyclical turns in sugar prices are the results of fluctuations in world production and stocks of sugar. Stocks rise and fall depending on whether production exceeds consumption and vice-versa. In more recent years, sugar prices peaked in 1974 and 1980 when inventories bottomed out following a contraction in world production in reaction to the low prices in earlier years. Prices hit lows in 1977 and 1985 when stocks reached their highs as output, stimulated by the peak prices of the previous years, rose.

2.11 Raw sugar prices in 1984 and 1985, the trough of the last cycle which commenced in 1980, were well below the prices in 1977 and 1978, the low years of the previous cycle. From data available respecting the current cost of producing sugar it is likely that recent prices have covered production costs of the most efficient producers only. This is in large part attributable to the expansion in EEC sugar output to the point where the Community, once a significant net importer, has become a major net exporter of sugar. Community producers have been able to accept low export prices because, under the Common Agricultural Policy, export sales are subsidized. U.S. sugar policy has had a similar depressing impact on the world market with a sharp decline in its net imports.

---

(1) As sugar price is given in terms of current dollars, the reflected increase in production cost is not adjusted for inflationary trend.

Sugar Policies of the European Economic Community and the United States

The EEC Policy

2.12 A system of production quotas and price supports for the Community's beet growers and processors, and a scheme for the disposal of surplus sugar, have been in existence as part of its Common Agricultural Policy since July 1, 1968. In addition to sugar, this policy also covers molasses, isoglucose (which is the European term for HFCS), several other sugars, and as well syrups and high sugar-content products.

2.13 The gross revenues received by growers and processors for sugar beets and refined white sugar are supported by a floor price or target price for white sugar and a basic price for beets which covers the growing costs of farmers and the processing margin of processors. The target price less 5 per cent is the price at which intervention agencies are obliged to buy any quantity of sugar offered, that is produced within production quota limits. The intervention price is equivalent to the basic price for beets plus transportation costs and processing costs less revenues from molasses.

2.14 The target price for white sugar plus the costs of transporting imported sugar to the Community port of entry and the cost of storing this sugar constitutes the threshold price. When the world price, and thus the import price, is less than this threshold point, a levy equivalent to the difference is charged on imported sugar. The total monies raised by these levies are available to the Community to subsidize export sales of sugar. However, when world prices are higher than the threshold price, import subsidies are paid to importers.

2.15 When levies on imports fail to yield sufficient resources to subsidize exports, i.e., make up the difference between the intervention price and the price actually realized on the export market, recourse is had to production levies on A and B production quotas, at 2 per cent of the intervention price. If this levy is not sufficient to finance exports, an additional production levy on B quotas of 30 per cent of the intervention price can be added, with yet another 7.5 per cent if necessary. The basic price less these production levies is the minimum price to beet growers. The following table presents the price structure applicable in 1985/86.

TABLE 2.2: EEC PRICE STRUCTURE - SUGAR BEETS AND SUGAR, 1985/86

		ECU/100kg	Cdn. ¢/kg[a]
BASIC BEET PRICE		40.89[b]	42.53
Minimum Beet Price:	"A" quota beets[c]	40.07[b]	41.67
:	"B" quota beets[d]	24.74[b]	25.73
Intervention Price:	White sugar	54.18	56.35
Target Price :	White sugar	57.03	59.31
Threshold Price :	White sugar	66.86	69.53
:	Raw sugar	57.24	59.53

(a) Conversion of European Community Unit (ECU) to Canadian dollars by 1.040.
(b) Beet prices are per 1000 kg.
(c) Basic price less production levy of 2 per cent.
(d) Basic price less production levy of 39.5 per cent.

Source: S & W Berisford Plc, Background Sugar Notes, EEC Sugar Support Prices in National Currencies for 1985/86 Together with Green Rates and MCA's, Issue No. 13, (London, June 1985), Annex Table 2.

2.16 Supply management is provided for by a series of production quotas for white sugar in each member country. Each country divides its quota among its processing plants and frequently among its beet growers. The "A" quota corresponds closely to the volume of white sugar consumed in the eleven member countries. "A" quotas now total 10.5 million tonnes. The "B" quotas for sugar are fixed at 2.3 million tonnes, and this output is largely for export through the weekly export tenders. Any sugar produced in excess of the "A" and "B" quota country allocations must be exported on the world market at prevailing prices without subsidization. This residual output is designated "C" sugar.

TABLE 2.3: SUGAR AND ISOGLUCOSE - EEC ANNUAL PRODUCTION QUOTAS, 1986/87 TO 1990/91

I. Basic quantities A

Region	Basic quantity A for sugar(a)	Basic quantity A for isoglucose(b)
Denmark	328,000	-
Germany	1,990,000	28,882
France (metropolitan)	2,530,000	15,887
French overseas departments	466,000	-
Greece	290,000	10,522
Ireland	182,000	-
Italy	1,320,000	16,569
Netherlands	690,000	7,426
Belgium/Luxembourg	680,000	56,667
United Kingdom	1,040,000	21,696
Spain	960,000	..
Portugal	9,000	..
TOTAL	10,485,000	157,649

II. Basic quantities B

Region	Basic quantity B for sugar(a)	Basic quantity B for isoglucose(b)
Denmark	96,629	-
Germany	612,313	6,802
France (metropolitan)	759,233	4,135
French overseas departments	46,600	-
Greece	29,000	2,478
Ireland	18,200	-
Italy	248,250	3,902
Netherlands	182,000	1,749
Belgium/Luxembourg	146,000	15,583
United Kingdom	104,000	5,787
Spain	40,000	..
Portugal	1,000	..
TOTAL	2,283,225	40,436

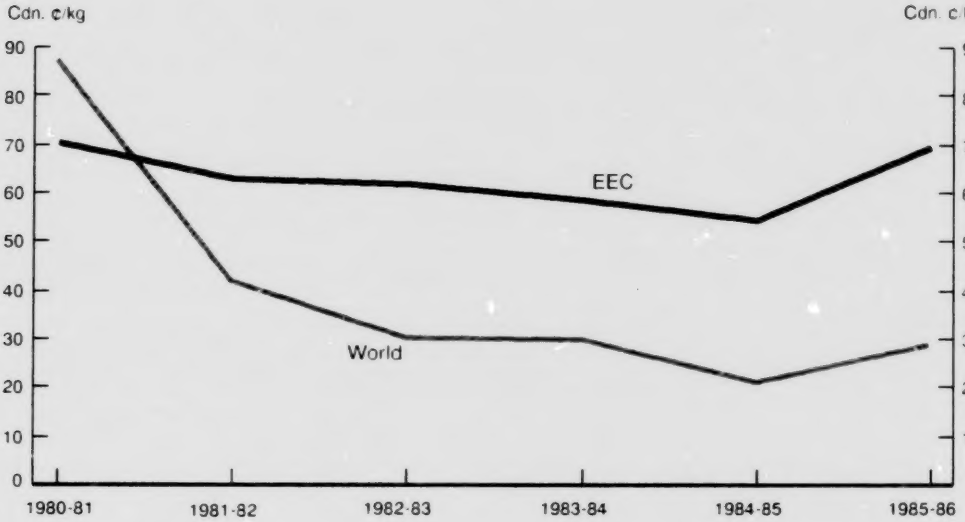
(a) In tonnes of white sugar.
(b) In tonnes of dry matter.

Source: Official Journal of the European Communities, Council Regulation (EEC) No. 1785/81 of 30 June 1981 on the Common Organization of the Markets in the Sugar Sector, Article 24, July, 1981.
Commission of the European Communities, Proposal for a Council Regulation (EEC) Amending Regulation (EEC) No. 1785/81 on the Common Organization of the Markets in the Sugar Sector, COM (85) 433 Final, Brussels, August, 1985.

2.17 It is evident from Figure 2.C below that the EEC intervention price for sugar was surpassed by the world price only when the latter was at its cyclical high in 1980-81. Subsequently the intervention price exceeded world sugar prices by a wide margin. In 1984/85, for example, the world price was as low as 21.0 Cdn.¢/kg whereas the intervention price was 54.5 Cdn.¢/kg (53.5 ECU per 100 kg). The spread between these two prices was substantial (33.5 Cdn.¢/kg).

Figure 2C

Sugar – EEC Intervention Price and World Price, 1980/81-1985/86



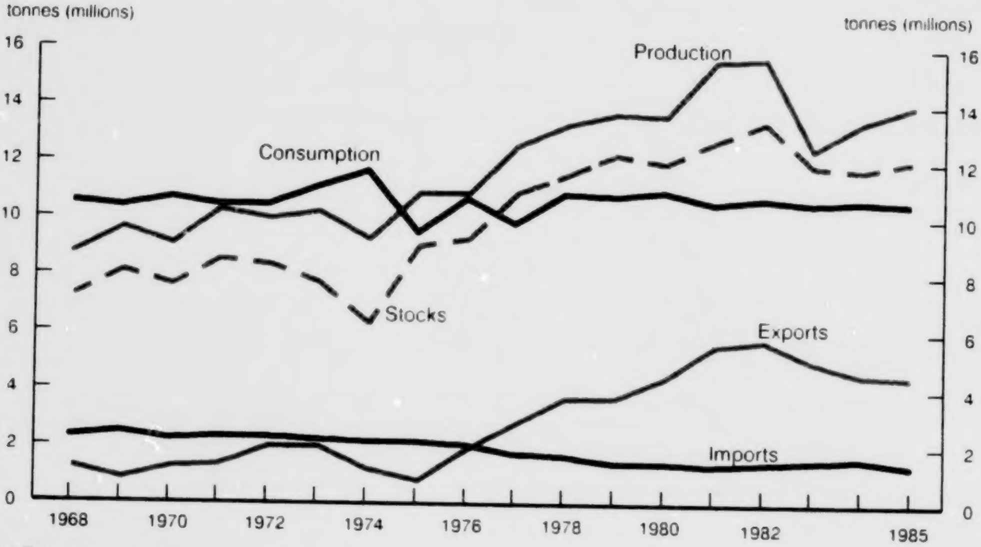
Source: Appendix Table 3

Impact of EEC Sugar Policy

2.18 The EEC sugar policy has resulted in a sharp increase in sugar output, from 8.7 million tonnes in 1968 to 13.9 million tonnes in 1985. This increase in production has converted the Community from a net importer of sugar into a producing area which recently has become the second largest net exporter of sugar after Cuba. As shown in Figure 2.D following, production in the EEC was, until 1975, less than consumption. Since 1975, however, production has exceeded consumption and, commencing in 1977, the EEC has become a net exporter. In 1982 its net exports totalled 4.1 million tonnes. Thereafter net exports have declined somewhat, to 3.0 million tonnes in 1985, due to a drop in production.

Figure 2D

Sugar - EEC, Production, Consumption, Stocks and Trade, 1968-1985(a)



(a) Data is in raw value.
Source: Appendix Table 4.

2.19 Imports of sugar by the EEC are now almost exclusively preferential imports from certain African, Caribbean and Pacific countries which, under the Lomé Convention, receive a price corresponding to the Community's intervention price. Therefore, financial resources from import levies, to finance exports, are practically non-existent, and export refunds must almost entirely be paid out of production levies. The current levies are not able, however, to match the export refunds and the sugar sector's account is in deficit in an amount of 664 million écus (equivalent to $Cdn. 690.6 million). More than a doubling of the current production levies would be required to make up this deficit. Table 2.4 summarizes EEC sugar sector levies and expenditures since 1980:(1)

TABLE 2.4: EEC SUGAR SECTOR - LEVIES AND EXPENDITURES, 1980-1985

	1980	1981	1982	1983	1984	1985(a)
			- Millions of Cdn. $ -			
1. Levies						
Production	357.4	168.2	334.5	514.5	722.3	525.2
Storage	401.8	476.9	518.1	524.5	477.4	540.8
Total Levies	759.2	645.1	852.6	1,039.0	1,199.7	1,066.0
2. Expenditures						
Export Refunds	465.4	547.1	896.9	830.9	1,213.8	1,284.4
Storage Reimbursement	443.2	460.3	591.8	603.3	438.1	447.2
Other	26.7	18.7	11.5	8.3	12.2	25.0
Total Expenditures	935.3	1,026.1	1,500.2	1,442.5	1,664.1	1,756.6
Difference (2-1)	-176.1	-381.0	-647.6	-403.5	-464.5	-690.6

(a) Estimated by the EEC Council.

Source: Commission of the European Communities, Proposal for a Council Regulation (EEC) Amending Regulation (EEC) No. 1785/81 on the Common Organization of the Markets in the Sugar Sector, COM(85) 433 Final, Brussels, August, 1985.

The Sugar Policy of the United States

2.20 The United States has had, in one form or another, legislation respecting sugar since 1934 when the Sugar Act of that year was introduced. After numerous amendments, this Act expired in 1974, but was subsequently replaced by the Agriculture and Food Act of 1977. This was amended in 1981 to form the basis for the current price support program for sugar. While modifications were again made in 1985 they did not alter the structure of the price support features.

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(1) See Appendix Table 5 for original data in écus.

2.21 Under its current sugar policy the United States Government operates a system of floor prices for domestically produced sugar which covers domestic growing costs and refining and processing costs. In order to achieve this, the U.S. government introduced a non-recourse loan program(1) and established a market stabilization price which was supported by a regime of import duties and variable import fees.

2.22 The loan program sets annually a loan rate which constitutes the amount, per pound of raw cane sugar or refined beet sugar produced, which refiners and processors can borrow from the Commodity Credit Corporation (CCC). The loan rate is therefore the minimum price at which the CCC can purchase the sugar offered to it. The average loan rate for the period 1981/82 to 1985/86 for raw cane sugar is presented in Table 2.5.

2.23 The loan rate for refined beet sugar is set at a level which reflects the historical relationship between the net selling price of refined beet sugar and raw cane sugar. The national average loan rate for refined beet sugar was 20.8¢ and 21.1 U.S.¢/lb. in 1984/85 and 1985/86 while the national average loan rate for cane sugar in those years was 17.8¢ and 18.0 U.S.¢/lb., respectively. Loan rates are established for each of the major growing areas with differences among them reflecting variations in costs of production.

2.24 Another feature of U.S. sugar policy is the market stabilization price (MSP). The MSP is the loan rate plus an amount representing transportation costs incurred by the refiner and an amount reflecting interest charges on the CCC loan plus a marketing incentive factor. The MSP thus arrived at discourages selling sugar to the CCC and provides an incentive for marketing to normal commercial outlets at a price which assures recovery of transportation and interest charges. In 1985/86 the MSP for raw cane sugar was 21.5 U.S.¢/lb., comprising a loan rate of 18.0 ¢/lb., a transportation factor of 2.5 ¢/lb., an interest component of 0.8 ¢/lb., and a marketing incentive of 0.2 ¢/lb. Table 2.5 sets out the comparable data for the period 1981/82 to 1984/85.

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(1) Non-recourse loans made under this program are against sugar stocks as collateral and, in the event of default, no legal action is taken to recover the funds advanced.

TABLE 2.5: RAW CANE SUGAR, U.S. MARKET STABILIZATION PRICE (MSP), 1981/82-1985/86

	1981/82	1982/83	1983/84	1984/85	1985/86
			- U.S.¢/lb. -		
Loan Rate	16.75	17.00	17.50	17.75	18.00
Transportation	1.63	2.66	2.62	2.68	2.51
Interest	1.30	0.87	0.85	0.94	0.79
Incentive	0.20	0.20	0.20	0.20	0.20
Market Stabilization Price	19.88	20.73	21.17	21.57	21.50

Source: B.W. Dyer & Company, The U.S. Sweetener Situation, Canadian Industrial Sugar Users Seminar, October, 1985.

2.25 The third element of U.S. sugar policy is a system of import duties and variable import levies called "import fees". This element brings the price of imported raw cane sugar to the level of the MSP. The import fees are raised or lowered depending on the changes in the world price of sugar. Further, the volume of imports, both for raw and refined sugar, is limited by import quotas. These quotas have been a major aspect of U.S. sugar policy for many years. Current (1986) quota allocations for sugar (raw value) are summarized below:(1)

	Tonnes '000
Canada	17.1
South America	1,004.2
Caribbean Area	51.1
Africa and Oceania	340.9
Asia	263.1
Total	1,676.5

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(1) For further details for the years 1982-1986 see Appendix Table 6.

2.26 The U.S. government also provides for a re-export program. Under this program U.S. refiners, who import raw sugar, can, upon export of the refined product, obtain a drawback of the import duties and fees paid by them upon importation of the raw sugar.

2.27 There is no single agency or institutional body in the United States established to administer its sugar policy. Under the general authority of the President, the U.S. Department of Agriculture determines the annual market stabilization price and the loan rate as well as annual quota allocations. The implementation of the program through the imposition of import fees is carried out by Customs authorities and, as described above, the CCC administers the loan program. In contrast to the United States, it is interesting to note that in Japan, one of the world's largest importers of raw sugar, a centralized Agency is used to administer that country's sugar policy. The Japan Sugar Price Stabilization Agency was established in 1965, its primary function until 1982 being to stabilize the price of imported sugar and to support the price of domestically processed cane and beet sugar. However, since 1982 the Agency has been responsible for the regulation of HFCS production as well. The objectives of this Agency are achieved through its purchase and resale operations covering both imported and domestically refined sugar and the imposition of import duties and excise taxes together with a system of variable charges (or rebates) and surcharges imposed on HFCS processors.

Impact of U.S. Sugar Policy

2.28 The consequence of recent U.S. sugar policy, commencing in 1981/82, has been to raise and maintain domestic sugar prices well above free market prices. This is evident in Table 2.6 which shows that in 1985, for example, while the world price averaged 4.0 U.S.¢/lb., the cost to the refiner was 20.3 U.S.¢/lb. (raw value) after adding CIF costs, duties and import fees and 21.9 U.S.¢/lb. after the allowance for refining(1) is incorporated. As also indicated, since 1980 the selling price of the refined product (based on U.S. wholesale price levels) has declined; however, the fall-off in world prices has been much more pronounced. The reduction in the spread for refining over this period reflects the drop shown in the refiner's selling price.

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(1) In the conversion, or processing, of raw cane sugar into refined sugar, approximately 1.08 kilograms of raw sugar is required to yield one kilogram of the refined product.

TABLE 2.6: PRICE SPREAD FOR SUGAR REFINING, UNITED STATES, 1975-1986

	World Price[a]	U.S. Price Duty Paid (New York)[b]	Cost to Refiner[c]	Wholesale Price[d]	Spread for Refining[e]
			- U.S.¢/lb. -		
1975	20.50	22.29	24.08	31.43	7.35
1976	11.60	13.32	14.39	19.21	4.82
1977	8.10	11.30	12.20	17.29	5.09
1978	7.81	14.07	15.19	20.87	5.68
1979	9.59	15.58	16.82	23.20	6.38
1980	29.00	30.09	32.50	40.99	8.49
1981	16.85	19.66	21.23	30.20	8.97
1982	8.36	19.93	21.52	27.62	6.10
1983	8.49	22.04	23.80	26.09	2.29
1984	5.14	21.74	23.48	25.66	2.18
1985	4.04	20.34	21.97	23.18	1.21
1986	6.62[f]	20.89[f]	22.56[f]	23.31[f]	0.75[f]

(a) Data are annual averages of daily spot prices, Contract No. 11, New York, except from 1977 to 1979 for which ISO world price data is used.

(b) Data are determined as in (a) above plus cost of insurance, freight and duties.

(c) Adjusted to allow for refining loss, calculated from U.S. price, assuming that 108 pounds of 96-degree sugar are required to produce 100 pounds of refined sugar.

(d) Wholesale prices for cane sugar, Northeastern United States (1975-1981); wholesale prices, Chicago-West (1982-1986).

(e) Spread for refining includes refining costs and profits, if any, for cane sugar refiners. Includes excise tax of 0.53 ¢/lb. for first six months of 1975.

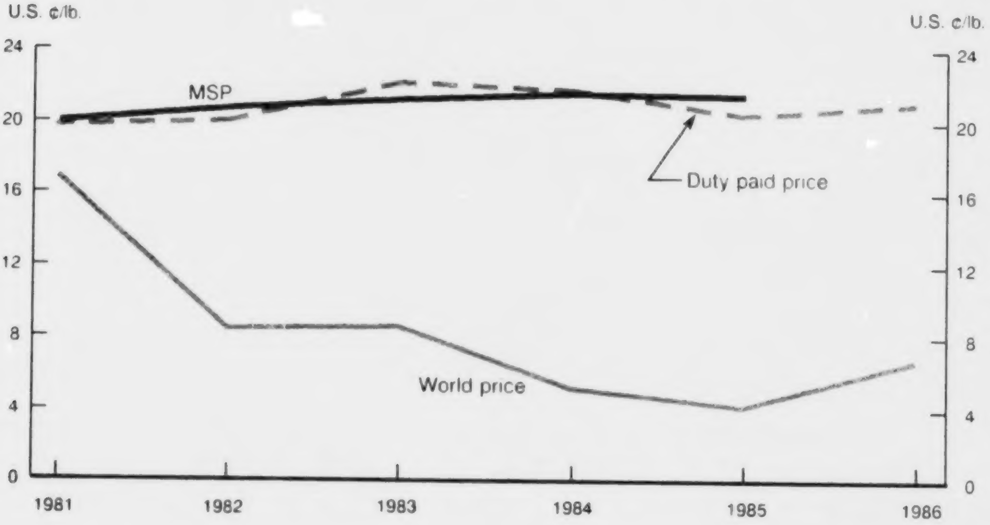
(f) January-June estimate.

Source: USITC, Sugar: Report to the President on Investigation No. 22-45, USITC Publication No. 1253, June 1982; USDA, Sugar and Sweetener, Outlook and Situation Report, SSRV11N1, March, 1986; USDA, Sugar and Sweetener, Situation and Outlook Report, SSRV11N3, September, 1986; International Sugar Organization, Sugar Year Book, 1985, (London, 1986).

2.29 Figure 2.E summarizes the relationship, since 1981, between the average world price for raw sugar, the market stabilization price (MSP) and the U.S. price paid per pound by refiners for imported raw cane sugar. The MSP, as described, essentially sets a floor price at which domestic producers sell raw cane sugar in the U.S. market. Since 1981 the MSP level has been much higher than the average world price. The basic result of recent U.S. policy has been, through import fees, to bring the cost per pound of imported raw sugar to a level approximately equivalent to that of the MSP and well above the world price.

Figure 2E

Sugar – United States Market Stabilization Price and Duty Paid Price Compared to World Price, 1981-1986

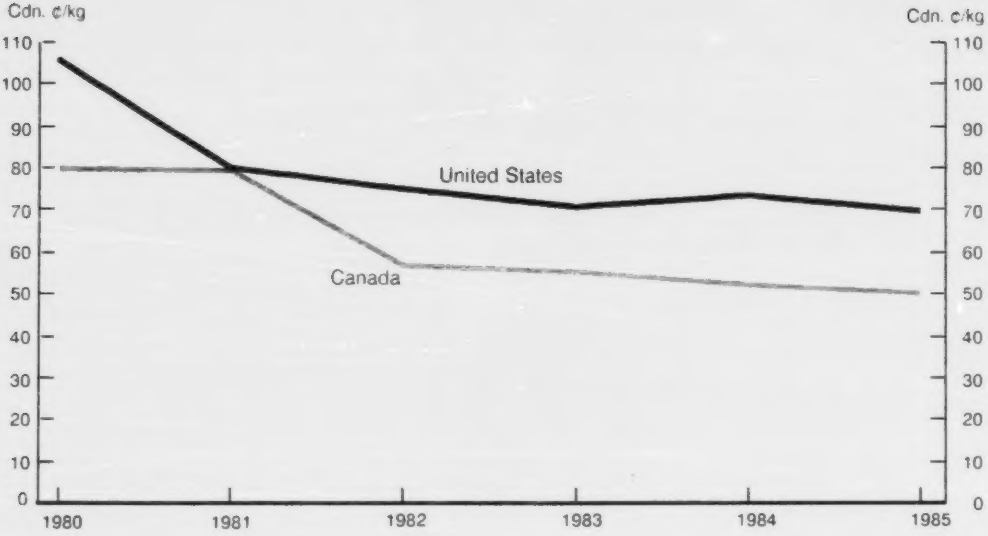


Source: Table 2.5 and 2.6.

2.30 Wholesale prices of sugar are, as a result of the U.S. support program, higher in that country than in Canada. Converted to Canadian dollars, the U.S. wholesale price of sugar in 1985 (23.2 U.S.¢/lb.) was 69.8 Cdn.¢/kg. This is appreciably higher than the Canadian price of 50.1 ¢/kg in the same year. It has been advantageous, therefore, for Canadian refiners and processors of sugar to deliver the quota of imports to the United States in full. A comparison of U.S. and Canadian wholesale sugar prices is given in Figure 2.F.

Figure 2F

Refined Sugar–Wholesale Prices in Canada and the United States, 1980-1985



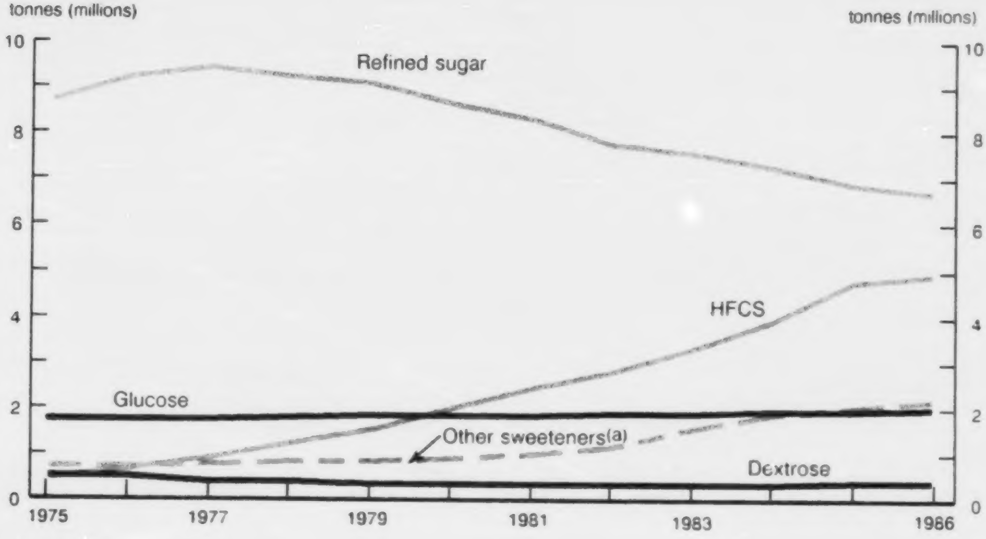
Source: Table 3.2 and Appendix Table 7.

2.31 U.S. sugar policy has not only raised the price level for sugar but in so doing has also elevated the price level of HFCS. The price of HFCS and sugar are normally not the same. HFCS is priced at a discount from the price of refined sugar. This discount is offered in order to gain market shares from sugar. As the price of sugar increases above the level at which HFCS production costs are met, HFCS producers can give larger discounts as market conditions warrant. The discount for HFCS 42 averaged 33 per cent during the period 1980-1985 and that for HFCS 55 averaged 20 per cent. In 1985, wholesale prices in the United States were 53.5 Cdn.¢/kg for HFCS 42 and 60.1 Cdn.¢/kg for HFCS 55. (See Appendix Table 7 for prices of earlier years.) If world prices had prevailed in the United States in 1985, and the discount remained the same, then the prices for these two HFCS products would have been 32¢ and 34 Cdn.¢/kg, respectively.

2.32 Ironically, U.S. sugar policy has resulted in greatly improved competitiveness for HFCS, a sugar substitute. HFCS consumption in the U.S. market has increased greatly over the past ten years, from about 500,000 tonnes in 1975 to 4.7 million tonnes (dry basis) in 1985. This and other trends in U.S. sweetener consumption are shown in Figure 2.G. It is also clear that U.S. consumption of refined sugar has declined substantially, from 8.7 million tonnes in 1975 to 6.9 million tonnes in 1985. This drop for refined sugar has been due, almost entirely, to rising HFCS sales as the consumption of glucose and dextrose, and of other sweeteners, has remained approximately constant.

Figure 2G

Sweeteners - Consumption, by Type, United States, 1975-1986

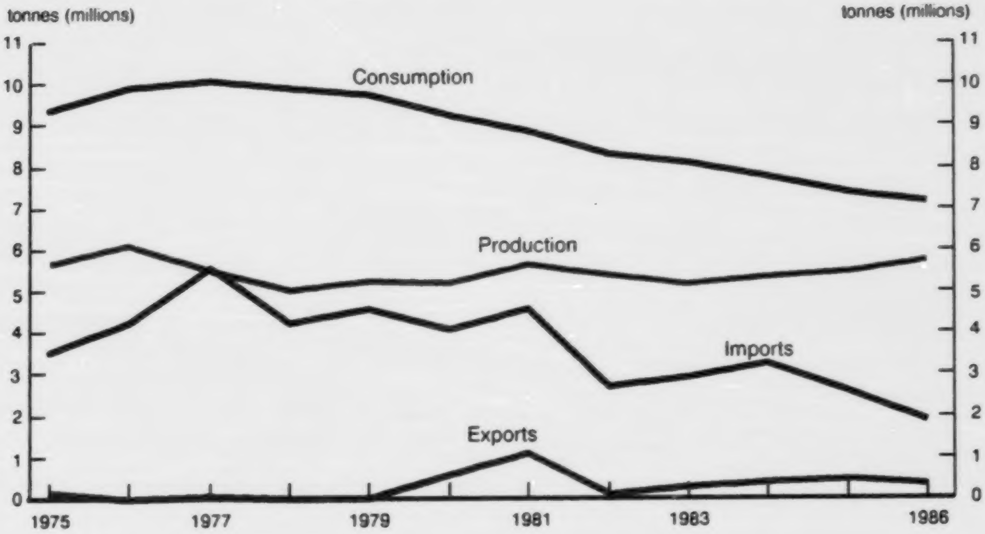


(a) Includes non-caloric sweeteners.
Source: Appendix Table 8.

2.33 In 1985, for the first time, corn sweetener consumption in the U.S. exceeded refined sugar consumption. In that year corn sweeteners (HFCS, glucose and dextrose combined) supplied about 44 per cent of the U.S. market compared to about 43 per cent for refined sugar. The balance of the market consists mainly of artificial sweeteners. Further data respecting trends in U.S. sweetener consumption is provided in Appendix Tables 8, 9 and 10.

2.34 A reduction in U.S. imports of sugar, largely by lowering its global import quota, has been used by the U.S. Government to offset the drop in U.S. sugar consumption and to maintain U.S. output. Sugar production is estimated at 5.7 million tonnes in 1986, compared to 5.2 million tonnes in 1980. Over the period from October, 1982 to December, 1986, U.S. import quotas were reduced, from 2.6 million tonnes (in raw value) to 1.7 million tonnes.(1) Total U.S. imports of sugar declined from 2.7 million to 1.9 million tonnes over the same period. Figure 2.H presents trends in U.S. production, consumption, imports and exports for the period 1975-1986.

Figure 2H
Sugar – Production, Consumption and Trade, United States, 1975-1986(a)



(a) Data is in raw value.
Source: Appendix Table 11.

2.35 The substitution of HFCS for sugar is largely the result of its lower price. However, at present, there are some technical and technological limitations, which will tend to restrict its future growth in market share. As a liquid, HFCS is at present confined to industrial use, and is therefore not a factor in sweetener consumption by institutions and individual consumers. Moreover, there is a limit to its industrial applications as well; for example, chocolate confectionery and baking cannot use HFCS. These factors suggest that the present 30 per cent share of the total U.S. sweetener market held by this corn sweetener may not increase as rapidly in the future as in the past decade.

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(1) See Appendix Table 6.

2.36 Under the price support regime, therefore, the U.S. sweetener market has been transformed from one where sugar had a clearly commanding position to one comprising a number of sugar substitutes. There are at least three major competitors: (1) corn sweeteners such as high fructose corn syrup (HFCS), (2) other caloric sweeteners, and (3) low and non-caloric sweeteners. Appendix Table 10 presents the U.S. consumption of sugar and its various substitutes in terms of per capita consumption.

CHAPTER 3: THE CANADIAN CANE SUGAR REFINING INDUSTRY

Cane Sugar Production

3.1 As sugar cane is not indigenous to Canada, the domestic refining industry is based, in recent years, upon the importation of close to one million tonnes of sugar in its raw (semi-processed) form. Imported raw cane sugar is refined in five refineries, all of which refine only raw cane sugar. These refineries are located in Saint John, Montreal, Oshawa, Toronto and Vancouver, all of which are easily accessible by ocean freighter.

3.2 The refineries imported 982,000 tonnes of raw sugar in 1985, a volume which fluctuates somewhat from year to year but has changed little over the last twenty years. The output of refined sugar totalled an estimated 937,000 tonnes in 1985, a level of output which has remained relatively constant over the past two decades.(1) The comparable figures for 1984 were 983,000 tonnes of raw and 948,000 tonnes of refined cane. The location and ownership of Canada's sugar refineries are given in Table 3.1 on the following page. This table also shows the location and capacity of the competing HFCS production facilities.

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(1) According to International Sugar Organization data for 1965-1985.

TABLE 3.1: NATURAL SWEETENER PROCESSING PLANTS, LOCATION, OWNERSHIP, RATED CAPACITY, AND YEAR OF ESTABLISHMENT

Company	Plant Location	Ownership	Rated Capacity Tonne/Day		Year Established
Lantic Sugar Limited	Saint John, N.B.(a)	Jannock/Steinberg	1000		1915
	Oshawa, Ontario(a)	"	450		1974
	Montreal, Quebec(a)	"	850		1879
B.C. Sugar Company	Vancouver, B.C.(a)	B.C. Sugar Refining Co. Ltd.	910		1890
Alberta Sugar Company	Taber, Alberta(b)	"	500		1950
Manitoba Sugar Company	Winnipeg, Manitoba(b)	"	350		1940
Redpath Sugars	Toronto, Ontario(a)	Redpath Industries Tate and Lyle PLC	890		1959
		HFCS Plants			
			42%(c)	55%(c)	
CASCO Company	Cardinal, Ontario	Canada Starch Co.	203	-	1979
	Port Colborne, Ontario	John Labatt Ltd.	155	205	1982
	London, Ontario	"	223	285	1982

(a) Cane sugar factory.
(b) Beet sugar factory.
(c) Estimated from Sugar y azucar October, 1985.

Source: Company submissions, Transcript and the Canadian Sugar Institute.

3.3 The capacity of Canada's five cane sugar refineries is 4,100 tonnes per day. On that basis the industry would have required 240 production days to refine the 982,000 tonnes of raw sugar imported in 1985. The refinery in Saint John provides the Atlantic Region with nearly 25 per cent of total Canadian refining capacity, a level well in excess of the regional share of the Canadian sugar market, estimated at 8.5 per cent. Assuming that this refinery supplies the entire Atlantic Region, then 66 per cent of its output is shipped to Central Canada and some, from time to time, to the United States. The Vancouver refinery has about 22.5 per cent of the total Canadian capacity which appears to exceed combined consumption of cane sugar in British Columbia and the Prairie Provinces, excluding beet sugar, of 16.5 per cent of the domestic sugar market. The other three refineries account for the remaining 52.5 per cent of refining capacity, while the main market served by them, Ontario and Quebec, accounts for an estimated 75 per cent of sugar consumption. As noted above, the Central Region market is also in part supplied by the Saint John facility.

Costs of Production

3.4 The cost of refining raw sugar comprises total wages and salaries of plant workers and office staff as well as the cost of all fuel and electricity consumed, packaging and other material inputs, advertising/promotion, interest payments, depreciation and capital charges. The gross operating or refining margin is basically determined by the difference between the average price received per kilogram of refined sugar, including credits from the sale of by-products, and the cost of imported raw sugar.

3.5 As shown in Table 3.2 on the following page, in 1980 Canadian refiners paid an average of 67 cents for the raw sugar used to produce one kilogram of refined sugar. This figure is the duty-paid, landed cost of imported raw sugar, adjusted by a factor of 1.08 to account for the refining loss of 8 per cent. In 1985 the cost of imported raw sugar was 15.7 ¢/kg. This decline in raw sugar cost reflects the sharp drop in world market prices, because, as discussed earlier, Canadian refiners purchase their raw material requirement at prices in line with those prevailing in the world market.

TABLE 3.2: CANE SUGAR - AVERAGE PRICE, COST OF RAW SUGAR AND ESTIMATED OPERATING MARGINS, CANADA, 1980-1986

	World Price of Raw Sugar(a)	Import Price, Raw Sugar, Canada(b)	Refiner's Cost of Raw Sugar(c)	Average Revenue for Refined Cane Sugar(d)	Estimated Gross Operating Margin(e)	Cost of all Other Inputs(f)	Estimated Net Operating Margin
	- Cdn.¢/kg (raw) -			- Cdn.¢/kg (refined) -			
1980	74.0	58.2	67.0	80.6	13.6	8.9	4.7
1981	44.5	55.3	66.0	79.8	13.2	10.6	2.6
1982	22.7	28.5	38.2	57.0	18.8	11.5	7.3
1983	23.0	21.6	30.7	55.7	25.0	12.9	12.1
1984	14.8	19.2	28.2	52.2	24.0	11.5	12.5
1985	12.2	15.7	24.0(g)	..	..	..	..
1986(g)	20.4	19.8	28.0(g)	..	..	..	..

(a) Represents price of raw cane sugar in the world market, in Canadian currency.

(b) Represents price of raw cane sugar f.o.b. point of shipment calculated from Canadian import data.

(c) Represents cost of raw cane sugar, delivered at refinery, CIF, including duty and internal transport and adjusted by 1.08 to account for refining loss.

(d) Represents revenues from refined cane sugar produced and from by-products divided by kilograms of refined sugar shipped.

(e) Represents spread between cost of raw sugar and the average revenue per kilogram from refined cane sugar (including cane molasses).

(f) Includes all other materials used in manufacturing, the cost of salaries and wages as well as the cost of fuel and electricity.

(g) Estimate.

Source: International Sugar Organization, Sugar Year Book, 1980 to 1985.
Statistics Canada, Cat. Nos. 65-203, Imports: Merchandise Trade and 32-222, Cane and Beet Sugar Processors.

3.6 Refined sugar prices, f.o.b. plant, are determined by the world sugar price, by the costs of importing raw sugar, and by the gross operating margin in refining. The refiner's average selling price, including revenues from cane molasses, was 80.6 ¢/kg in 1980 and an estimated 50.1 ¢/kg in 1985. The refiner's declining selling price for refined cane sugar since 1980 reflects the lower sugar prices on the world market.

3.7 The cost of refining raw cane sugar, i.e., based on the gross operating margin in 1984, was 24.0 ¢/kg of refined sugar compared to 13.6 ¢/kg in 1980. The gross operating margin has risen significantly during the period under study as a result of general upward pressure on the unit cost of other inputs and an increase in net operating margins. Also shown in Table 3.2 on the previous page is the estimated net operating margin for Canada's sugar refining industry for the period 1980 to 1984. This estimate is derived as the gross margin less all material costs used in processing as well as the cost of wages and salaries and the cost of fuel and electricity. The net operating margin thus constitutes the residual return accruing to refiners which is available to cover overhead costs, financial charges and return on capital. As noted, since 1981 the gross operating margin has risen notably as the decrease in raw sugar cost exceeded the drop in selling price per kilogram. The net operating margin in sugar refining has improved greatly since 1981, from less than 5 ¢/kg in 1980 to an estimated 12.5 ¢/kg in 1984. Although the price of raw sugar fluctuates widely, other industry input costs, e.g., for packaging materials, labour and energy, have increased only modestly since 1980, from about 9 to 12 ¢/kg.

3.8 From the standpoint of processing cost there is little difference between the Canadian cane sugar refining industry compared to its counterpart in the United States. The refining cost of raw sugar in the United States was, in Canadian currency, 21.7 Cdn.¢/kg of refined sugar in 1983 and was 24.5 Cdn.¢ in 1984.(1) These refining costs, based on a comparison of gross operating margins, are almost the same as those incurred by Canadian refiners. For the period 1981-1984, U.S. refining costs for cane sugar averaged, in Canadian currency, 22.8 ¢/kg, somewhat above the figure for Canadian costs which averaged an estimated 20.3 ¢/kg. It can be concluded that the domestic sugar refining industry is thus competitive with its American counterpart. This conclusion is also supported by evidence presented in the submission by CASCO.(1) U.S. production costs are given below both for cane and beet sugar:

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(1) It is noted that refining costs for raw cane sugar in Table 3.3 are expressed in terms of a unit of raw, not refined, sugar.

TABLE 3.3: RAW CANE SUGAR - PRODUCTION AND PROCESSING COSTS, UNITED STATES, 1981-1984(a)(b)

	1981		1982		1983		1984	
	U.S. ¢/lb.	Cdn. ¢/kg	U.S. ¢/lb.	Cdn. ¢/kg	U.S. ¢/lb.	Cdn. ¢/kg	U.S. ¢/lb.	Cdn. ¢/kg
Production Cost	14.12	37.32	13.73	37.35	14.29	38.81	13.61	38.86
Processing Cost	7.73	20.43	7.81	21.25	7.40	20.10	7.94	22.67
Total Cost	21.85	57.76	21.53	58.57	21.69	58.91	21.55	61.52

(a) Net of credits for by-products (principally from the sale of molasses).
(b) Cents per pound of raw sugar.

Source: USGAD, Report to the Congress of the United States, U.S. Sweetener/Sugar Issues and Concerns, GAD/RCED-85-19, Nov. 1984.
USDA, Sugar: Background 1985 Farm Legislation, Agriculture Information Bulletin No. 478, Sept. 1984.
USDA, U.S. Sugar Beet and Sugar Cane Production and Processing Costs - 1983/Crop; Sugar and Sweetener, SSRV10N3, Sept. 1985.
USDA, Sugar and Sweetener: Situation and Outlook Report, SSRV11N3, Sept. 1986.

TABLE 3.4: BEET SUGAR - PRODUCTION AND PROCESSING COSTS, UNITED STATES, 1981-1984(a)(b)

	1981		1982		1983		1984	
	U.S. ¢/lb.	Cdn. ¢/kg	U.S. ¢/lb.	Cdn. ¢/kg	U.S. ¢/lb.	Cdn. ¢/kg	U.S. ¢/lb.	Cdn. ¢/kg
Production Cost	11.47	30.32	12.35	33.60	12.96	35.20	12.19	34.80
Processing Cost	12.24	32.35	13.17	35.83	9.66	26.24	9.87	28.18
Total Cost	23.71	62.67	25.52	69.43	22.62	61.44	22.06	62.98

(a) Net of credits for by-products (principally from the sale of beet pulp and molasses).
(b) Cents per pound of refined sugar.

Source: Op. cit., Table 3.3.

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(1) See Exhibit A, p. 59, CASCO brief.

Employment

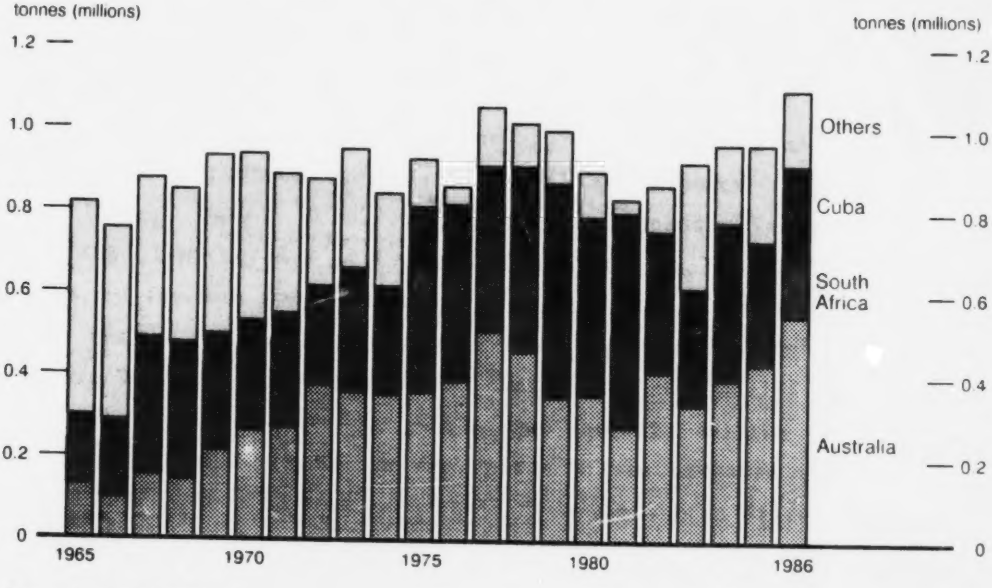
3.9 The employment trend in Canada's sugar refining industry (including both cane and beet sugar refining) has been downward, at least since 1980, when 2,570 workers were employed compared to 2,301 in 1984.(1) Current employment associated with the refining of cane sugar alone is estimated at about 2,000 workers. Given that output levels respecting cane sugar have remained relatively constant, there is an indication that labour productivity in this industry has increased.

Imports and Exports

3.10 Figure 3.A depicts Canada's raw sugar imports since 1965, indicating trends respecting source of supply by country:

Figure 3A

Raw Sugar - Canadian Imports, by Country, 1965-1986



Source: Appendix Table 12.

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(1) Statistics Canada, Cat. No. 32-222 Cane and Beet Sugar Processors.

and troughs occur in the same years and the duration of the cycles is similar. Canadian refiners purchase their raw sugar, and set domestic prices of refined sugar, in line with free world market prices. Canada is unique in this respect.

3.14 Average unit values of Canadian raw sugar imports are, however, not the same as world market prices. For example, the peak was lower in 1980 and the cyclical bottom in 1985 was higher. This difference can be explained by seasonal variations in raw sugar imports; Canadian imports of raw sugar do not take place evenly throughout the year. Another major factor is the effect of forward contracting for raw supplies, which dampens the swings of purchase price fluctuations compared to the sharper swings in market price. Another factor is changes in the source of imports; unit values of imports differ among countries supplying the Canadian market, and any fluctuations in their shares of that market will affect the overall average unit value. Changes in the average price paid by Canadian importers are thus substantially smaller than in world sugar prices.

3.15 Canada imports, in addition to raw sugar, a substantial and rapidly rising volume of refined sugar. In 1985 such imports totalled 100 thousand tonnes, valued at $27.1 million (see Appendix Tables 14 and 15). Refined imports were as low as 3,300 tonnes in 1982. The United States is by far the main source of these imports. The average unit value of the refined sugar purchased from that country in 1985 was 26.6 Cdn.¢/kg, a price level well below the wholesale level of 69.8 Cdn.¢/kg in that country. While the domestic selling price for refined sugar is much higher in the United States compared to Canada, under the U.S. Re-Export Program exports from the United States qualify for drawbacks of the duties and import fees originally imposed. Thi means that U.S. exporters can ship to Canada at prices in line with worl prices.

3.16 Less than 5 per cent of Canada's refined sugar output is exported although the amount fluctuates considerably. Refined sugar export averaged about 74,500 tonnes for the 1980-1985 period (see Appendi Tables 16 and 17). Available data covering refined sugar export combine sugar from both cane and beet. Reported exports are largel cane sugar. Refined cane sugar exports were highest in 1981, at abou 127,000 tonnes, but have since fallen off notably as the United State has reduced its quota allocations from Canada in recent years. I recent years, Canadian refiners and processors have delivered full quot volumes to the United States because of the higher prices there a compared to domestic prices.

Consumption

3.17 The domestic market for cane sugar was just under 980,000 tonnes in 198 and slightly over 1 million tonnes in 1986 (see Table 3.5 for prio years). Despite the increasing market inroads made by other natura sweeteners, specifically HFCS, cane sugar still accounts for the bulk, about 65 per cent in 1985, of total natural sweetener consumption i Canada in contrast to 49 per cent in the United States. It is estimate that, currently, two-thirds of Canadian cane sugar consumption is fo industrial use, with the remaining one-third going to household use an for institutional consumption.(1)

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(1) Statistical information for industrial use is based on total sugar us (i.e., both cane and beet) but nonetheless closely reflects the usage o cane sugar.

TABLE 3.5: REFINED CANE SUGAR, PRODUCTION, IMPORTS, EXPORTS AND DOMESTIC CONSUMPTION, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- '000 tonnes -			
Production[(a)]	847.3	940.9	877.9	872.4	947.6	937.3	982.9
Imports	7.9	6.8	3.4	19.1	32.1	100.1	118.4
Supply	855.2	947.7	881.3	891.5	979.7	1,037.4	1,101.3
Exports	13.0	127.3	88.8	83.1	76.8	58.4	88.0
Consumption	842.2	820.4	792.5	808.4	903.0	979.0	1,013.3

(a) Based on shipments data.

Sources: Statistics Canada, Cat. No. 32-013, The Sugar Situation.
Statistics Canada, Cat. No. 65-203, Imports: Merchandise Trade.
Statistics Canada, Cat. No. 65-202, Exports: Merchandise Trade.
Tariff Board Questionnaires.

3.18 A comparison of 1980 to 1986 indicates, in this recent period, a substantial rise in domestic sugar consumption. However, International Sugar Organization statistics for the period 1965 to 1985 reveal that, over this longer term, domestic consumption levels have remained about constant. While consumption on a per capita basis has declined this has been roughly offset by Canadian population growth. In 1985 each Canadian used, on average 38.7 kilograms of cane sugar. In terms of value at the refiners level, domestic cane sugar used totalled an estimated $480 million in 1984, a level which was well below that in 1980, about $680 million. The pronounced drop in value was due to lower sugar prices.

3.19 Refined cane sugar is marketed in various forms such as granulated white, soft yellow or brown, icing sugar, or invert sugar in liquid form. Shipments of the various types of refined sugar are presented in Appendix Table 18. Refined sugar (including both cane and beet) is available in various consumer-size packages under 20 kg, in packages of 20 kg and over, and in bulk, primarily for institutional and industrial use. Liquid invert sugar is used only as an industrial sweetener.

CHAPTER 4: THE CANADIAN SUGAR BEET INDUSTRY

Cultivation, Acreage, Yields and Production

4.1 The principal statistics pertaining to the cultivation of sugar beets in Canada, including data on acreage, yields, production, sugar content and growing costs are presented in this Chapter. Also included is the role of the Agricultural Stabilization Act and the effect, on grower incomes, of stabilization payments made to beet growers in recent years. The Chapter concludes with a discussion of the processing of beets into refined sugar, the costs of such processing, and the pricing of beets and beet sugar relative to refined cane sugar.

4.2 The sugar beet, which is the dominant source of sugar in regions too cool for growing sugar cane, is planted in the spring and harvested in the fall. At one time this crop was grown widely across Canada, in Quebec, Ontario and the Western provinces, as good growing conditions exist in many areas in Canada. However, sugar beet production in southwestern Ontario ceased in 1968 and, in Quebec, in 1985. At present, this crop is grown on a commercial basis only in the Red River Valley of Manitoba and on irrigated land in the Lethbridge-Taber area of Alberta. It is normally a crop grown in a 3-year rotation basis; harvesting, done mechanically, usually extends from September to December. Most farms are located close to the beet processing factory since haulage by truck from farm to factory is a significant cost component. Processing into the final beet sugar product normally covers a 6-month period extending into March of the following year.

4.3 The number of sugar beet growers in Manitoba has declined in recent years, from 448 growers in 1981 to 370 in 1986, or by 17 per cent.(1) Similarly, Alberta also experienced a reduction in the number of growers in recent years, from 685 in 1981 to 610 in 1986, a decline of 11 per cent.(1) According to the 1981 Census, most farms in Manitoba and Alberta reported sowing sugar beets on about 25 to 55 hectares. The processor and the growers in Alberta were not able to reach an agreement in 1985 so no beets were sown in that year in that province.

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(1) According to information from British Columbia Sugar Refining Company, Limited and based on the number of growers under contract.

4.4 The number of hectares of sugar beets harvested since 1980 has remained fairly constant, for other than 1985, as shown in the following Table:

TABLE 4.1: SUGAR BEETS - AREA HARVESTED, BY PROVINCE, 1980-1986

	Quebec[a]	Manitoba	Alberta
		- hectares -	
1980	2,800	9,845	13,667
1981	4,000	11,229	14,193
1982	5,200	11,234	12,344
1983	6,800	11,123	12,773
1984	3,300	10,768	11,667
1985	2,400	9,602	-
1986	(b)	11,014	12,023
Average	4,083	10,688	12,778

(a) Figures represent area seeded as per Statistics Canada.
(b) Commercial production ceased in 1985.

Source: Statistics Canada, Cat. No. 22-002, Field Crop Reporting Series; Manitoba Sugar Beet Producers' Association Inc. and Alberta Sugar Beet Growers' Marketing Board, Annual Reports.

With an average area of 12,778 hectares during 1980-1986 (excluding 1985), Alberta had 20 per cent more hectares under sugar beet cultivation than Manitoba, with an average of 10,688 hectares. In both provinces the area harvested in 1986 declined compared to 1983 and 1984. As sugar beet cultivation ceased in Ontario in 1968 and in Quebec in 1985, the presentation in the following paragraphs focuses on beet growing and processing in Alberta and Manitoba, now the only producing provinces in Canada.

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(1) According to information from British Columbia Sugar Refining Company Limited and based on the number of growers under contract.

4.5 Table 4.2 indicates sugar beet production in Manitoba and Alberta in recent years. Since 1980, annual production in Alberta has averaged 565,600 tonnes while in Manitoba, it has averaged 331,400 tonnes. Peak production occurred in 1981 in both provinces, a year when Alberta had a record area in beets and experienced very high yields; combined production was lowest in 1980, chiefly because of reduced acreage and low yields in Manitoba.

TABLE 4.2: SUGAR BEETS - PRODUCTION, MANITOBA AND ALBERTA, 1980-1986

	Manitoba	Alberta
	- tonnes -	
1980	234,787	524,251
1981	406,442	715,083
1982	372,271	474,878
1983	333,900	569,848
1984	332,086	513,180
1985	290,474	-
1986(a)	349,693	596,122
Average	331,379	565,560

(a) Canadian Sugar Beet Producers' Association.

Source: Annual Reports, Manitoba Sugar Beet Producers' Association Inc., 1983-1986.
Annual Reports, Alberta Sugar Beet Growers' Marketing Board, 1981-1985.
Tariff Board.

4.6 Since 1980, the yield in Alberta, where most of the beet crop is under irrigation, has averaged 44.3 tonnes/hectare, with a high of 50.4 tonnes/hectare in 1981 and a low of 38.4 in 1980. In Manitoba, where little irrigation is used, yields were considerably lower, averaging 31.0 tonnes/hectare during 1980-1986.

TABLE 4.3: SUGAR BEETS - AVERAGE YIELD, MANITOBA AND ALBERTA, 1980-1986

	Manitoba	Alberta
	- tonnes/hectare -	
1980	23.85	38.36
1981	36.20	50.38
1982	33.14	38.47
1983	30.02	44.61
1984	30.84	43.99
1985	30.25	-
1986	31.75 (a)	49.58 (a)
Average	31.00	44.26

(a) Canadian Sugar Beet Producers' Association.

Source: Tables 4.1 and 4.2

4.7 The sugar content of Manitoba beets is higher than that of beets grown in Alberta (see Table 4.4). While the sugar content in Alberta has remained more or less constant, in Manitoba it has increased substantially. Although the average yield has been much lower in Manitoba compared to Alberta, this yield differential is somewhat offset by the higher sugar content of the beets produced in Manitoba, where growing relies much less on irrigation systems. As discussed subsequently (see Table 4.8), growing costs per tonne of beets are much higher in Manitoba than in Alberta. For example, in 1986 the Manitoba cost was $47.0 per tonne compared to the Alberta cost of $35.3 per tonne. This cost differential is significantly reduced when a comparison is made on a basis of cost per kilogram of refined sugar produced.

TABLE 4.4: SUGAR BEETS - SUGAR CONTENT,[a] MANITOBA AND ALBERTA, 1980-1986

	Manitoba	Alberta
	- kilograms -	
1980	112.41	114.54
1981	93.55	103.57
1982	119.94	114.84
1983	119.85	106.57
1984	121.44	101.78
1985	123.70	-
1986 est.[b]	130.00	119.50
Average	117.27	110.13

(a) In kilograms of sugar per 1,000 kg of sugar beets processed.
(b) Canadian Sugar Beet Producers' Association.

Source: Annual Reports, Manitoba Sugar Beet Producers' Association Inc., 1983-1986.
Annual Reports, Alberta Sugar Beet Growers' Marketing Board, 1981-1985.

4.8 During 1980-1986, the production of refined sugar from beets in Manitoba averaged 38,700 tonnes. Production in Alberta was significantly higher, averaging 62,100 tonnes for the 1980-1986 period, (excluding 1985). As shown in Table 4.5, in both provinces the level of production has varied considerably.

TABLE 4.5: SUGAR PRODUCED FROM BEETS, MANITOBA AND ALBERTA, 1980-1986[a]

	Manitoba	Alberta
	- tonnes -	
1980	26,393	60,046
1981	38,021	74,131
1982	44,649	54,537
1983	40,017	60,729
1984	40,330	52,229
1985	35,930	-
1986 est.(b)	45,443	71,000
Average	38,683	62,112

(a) Crop year basis.
(b) Canadian Sugar Beet Producers' Association.

Source: Tariff Board, Questionnaires to British Columbia Sugar Refining Company, Limited.

Growing Costs

4.9 The cost of producing sugar beets varies from farm to farm and reflects different local growing conditions and methods of cultivation. To ensure accuracy in comparing costs between farms from year to year, a uniform and consistent cost accounting approach is required. In this regard, the Board did not undertake a cost survey of its own but relied on the data supplied by the growers to the Agricultural Stabilization Board for cash cost calculations. In estimating fixed costs, overheads and capital related costs, the Tariff Board relied on cost surveys conducted by Alberta Agriculture.(1) Table 4.6 following indicates out-of-pocket costs per field tonne and per standard tonne as calculated by the Agricultural Stabilization Board. The "standard tonne" measurement in this context is the number of kilograms of sugar beets required to yield, after processing, 125 kg of refined sugar. This designation is of importance in the grower/processor contract since the price received by the grower in part depends on the sugar content of the beets supplied.

TABLE 4.6: SUGAR BEETS - CASH COSTS OF PRODUCTION, MANITOBA AND ALBERTA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- dollars -			
MANITOBA:							
Per field tonne	41.06	31.97	37.29	41.69	42.73	41.03	47.02
Per standard tonne	45.66	42.72	38.86	43.48	43.98	41.46	45.23
Per kilogram of sugar	0.37	0.34	0.31	0.35	0.35	0.33	0.36
ALBERTA:							
Per field tonne	26.12	23.21	32.09	28.14	29.22	-	35.31
Per standard tonne	28.50	28.01	34.93	33.01	35.88	-	36.94
Per kilogram of sugar	0.23	0.22	0.28	0.26	0.29	-	0.30

Source: Agriculture Canada and Tariff Board.

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(1) Alberta Agriculture, Economics Services Division, Production Economics Branch, Agdex Nos. 171/821-3, 171/821-4, and 171/821-5.

4.10 The cash cost, or out-of-pocket cost, of sugar beets is the sum of direct charges such as hired labour, contract labour, custom work, fertilizer, chemicals, land taxes, water charges, and crop insurance. As well, in any farm operation, substantial non-cash costs are incurred which include mainly depreciation allowances for machinery, land charges and the operators' own labour.(1) Information on such non-cash costs was not available in full, for all the years under review. However, the Agriculture Alberta survey earlier referred to found that non-cash inputs, for sugar beet growing, made up 41 to 45 per cent of total production costs.

4.11 In addition, from the information provided to it, the Tariff Board was able, for the 1985 crop year, to establish data showing total estimated production costs broken down as to cash and non-cash charges and also such costs divided as to variable and fixed components (see Table 4.7). These costs categories are based on models used by the Development Policy Institute, Input and Technology Division of Agriculture Canada. Costs are based on the Institute's evaluation of the requirements of the average beet grower. These figures were subsequently adopted by the Canadian Sugar Beet Producers' Association in its presentation to the Board. These cost figures differ from the historical costs presented by growers in the past to the Agricultural Stabilization Board.

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(1) See Appendix Tables 19 and 20.

TABLE 4.7: SUGAR BEETS - COST OF PRODUCTION, CASH AND NON-CASH, VARIABLE AND FIXED, MANITOBA AND ALBERTA, 1985

	MANITOBA		ALBERTA (a)	
	$/hectare	$/tonne	$/hectare	$/tonne
Variable Costs				
Cash	773.65	25.58	1,044.69	23.75
Non-cash	84.36	2.79	158.17	3.60
TOTAL	858.01	28.37	1,202.86	27.35
Fixed Costs				
Cash	124.44	4.11	172.90	3.93
Non-cash	295.80	9.78	270.72	6.15
TOTAL	420.24	13.89	443.62	10.08
Total Costs				
Cash	898.09	29.69	1,217.59	27.68
Non-cash	380.16	12.57	428.89	9.75
TOTAL	1,278.25	42.26	1,646.48	37.43

Note: Costs per tonne were calculated on the basis of 1985 Manitoba and 1984 Alberta yields as per Table 4.3.

(a) As no crop was planted in Alberta in 1985, the data shown are based on a costing model.

Source: Tariff Board 1986 Questionnaires to the Canadian Producers' Associations. Costs were based on a model developed by Agriculture Canada. See also Appendix Tables 19 and 20.

4.12 The average price paid by beet processors to growers, per tonne of sugar beets delivered, is based in the contract between growers and the processor in large part upon the price of refined sugar in Canada. Grower prices were highest for the crop in 1980, the year when the world sugar price reached a cyclical high. Subsequently, the average price paid to the grower declined sharply in 1985 and 1986 when sugar prices bottomed out, as shown in Table 4.8:

TABLE 4.8: SUGAR BEETS - AVERAGE PRICE AND CASH COST PER TONNE, MANITOBA AND ALBERTA, 1980-1986

Crop Year	Manitoba			Alberta		
	Average Price[(a)]	Cost	Gain (Loss)	Average Price[(a)]	Cost	Gain (Loss)
	- $/tonne -			- $/tonne -		
1980	55.61	41.06	14.55	67.00	26.12	40.88
1981	37.00	31.97	5.03	43.19	23.21	19.98
1982	41.91	37.29	4.62	45.52	32.09	13.43
1983	39.62	41.69	(2.07)	38.76	28.14	10.62
1984	33.99	42.73	(8.74)	31.49	29.22	2.27
1985	24.74	41.03	(16.29)	-	-	-
1986 est.	25.80	47.02	(21.22)	21.00	35.31	(14.31)

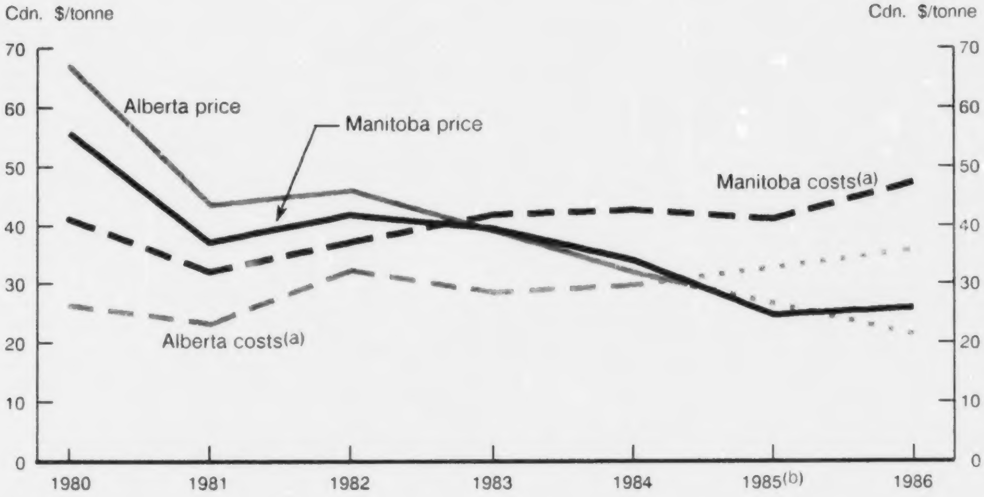
(a) Per field tonne (metric) as paid by the processor.

Source: Annual Reports, Manitoba Sugar Beet Producers' Association, 1982-1986; Annual Reports, Alberta Sugar Beet Growers' Marketing Board, 1981-1985; Agriculture Canada and Tariff Board.

4.13 Table 4.8 also compares, on a crop year basis, the price paid by processors to growers with the growing costs per tonne as given earlier (in Table 4.6). Whereas, in both Manitoba and Alberta, the cash cost per tonne of producing sugar beets has risen since 1980, the price received has declined significantly. As a result, beet producers have produced at a loss in recent years. This is more pronounced for Manitoba compared to Alberta. However, the differentials between price per tonne and cost per tonne do not take into account either the additional income received by growers from stabilization payments or the additional non-cash costs incurred in beet production. The data in Table 4.8 is presented in Figure 4.A on the following page.

Figure 4A

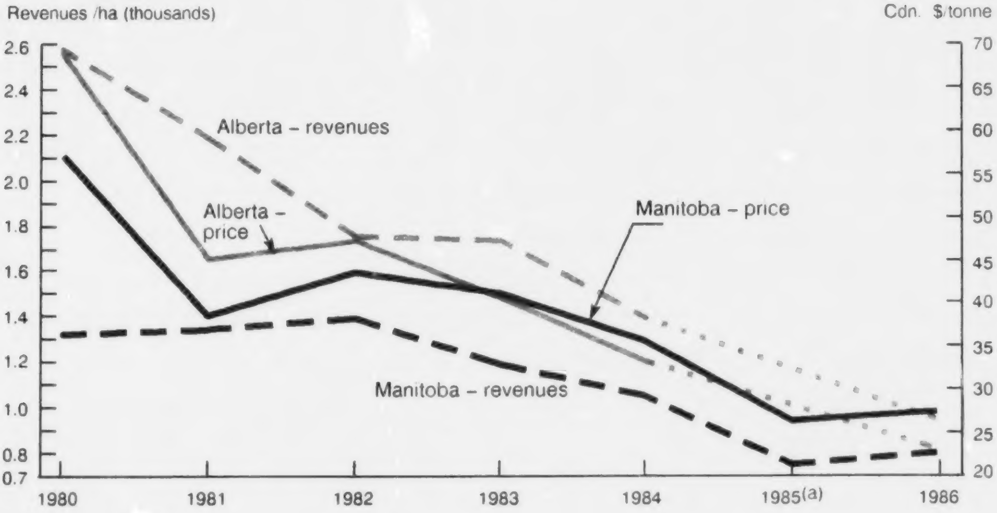
Sugar Beets - Price Received and Growing Costs, Manitoba and Alberta, 1980-1986



(a) Cash cost
(b) No crop in Alberta in 1985
Source: Table 4.8.

Figure 4B

Sugar Beets - Price per Tonne and Average Revenues per Hectare Seeded, Manitoba and Alberta, 1980-1986



(a) No Alberta crop in 1985.
Source: Table 4.1, 4.2, 4.3 and 4.8.

4.14 Figure 4.B on the previous page summarizes some of the principal trends in the production of sugar beets since 1980. This chart illustrates the sharp decline in the price received per tonne (average revenues per tonne) by sugar beet growers as well as in revenues generated per hectare. There is a close correlation between the price received per tonne and revenue per hectare since total revenues are determined principally by the grower's selling price. Nonetheless, for Alberta and particularly for Manitoba, the decline in revenues per hectare is not as pronounced as is the fall-off in price because yields per hectare in both provinces have risen notably between 1980 and 1986. The gap between the Alberta price received per tonne for sugar beets vis-à-vis the Manitoba price has closed, mainly because of the increases achieved by Manitoba beet growers since 1982 in the sugar content per tonne.

Stabilization Payments and Farm Income

4.15 The average price received by growers, as given above, excludes support payments made under the Agricultural Stabilization Act. Sugar beets are not specifically named or identified for the purposes of the Act and are therefore not automatically entitled to support. Sugar beets, and other agricultural products not named in it, may nevertheless be designated as agricultural commodities for the purposes of the Act. Designation must, however, be requested by growers, be approved by the Agricultural Stabilization Board, and be implemented on an annual basis by the Governor-in-Council. This introduces a serious element of uncertainty for growers because in some years sugar beets are designated while in others they are not. Growers received support payments for the 1981, 1982 and 1985 beet crops but not for 1980, 1983 or 1984. Even when these payments are made, they are long delayed.

4.16 In the past, the formula for calculating support payments has recognized a base price, a prescribed price, and a deficiency payment. The base price is the average price received by the grower over the five preceding years. However, that average price is not fully supported. The level of support varies annually and was, for example, set at 90, 80, and 93.2 per cent for the 1981, 1982 and 1985 crop years respectively. Support payments also take into account the increase in production costs which occurred during the current year compared with the average of production costs in the five preceding years. The sum of the support level for the base price and the factor to account for cost increases in the current year determines the prescribed price to beet growers. The amount by which the prescribed price exceeds the average price per tonne received by growers from the processor in the current year constitutes the deficiency payment. The following table presents the calculations for the 1981, 1982 and 1985 crops:

TABLE 4.9: SUGAR BEETS - CALCULATIONS OF DEFICIENCY PAYMENTS TO GROWERS, 1981, 1982 AND 1985 CROPS

		1981	1982	1985
			- $/standard tonne -	
Base price (five year average)		48.42	52.01	46.27
Level of support		(90%) 43.58	(80%)41.61	(93.2%)43.13
Plus:	Production cost increase	9.87	11.61	1.87
Equals:	Prescribed price	53.45	53.22	45.00
Less:	Return in current year(a)	47.79	42.26	25.00(b)
Equals:	Deficiency payment	5.66	10.96	20.00(c)

(a) Return is equivalent to average grower price per standard tonne.

(b) For Manitoba.

(c) Includes contributions by Provincial Governments.

Source: Agriculture Canada and Agricultural Stabilization Board.

4.17 In 1986 the federal government proposed the establishment of a new domestic sugar beet policy. The proposal included a seeding incentive of $12.43 per tonne for the 1986 crop paid to growers by the Agricultural Stabilization Board. The central feature of the policy is a stabilization program for sugar beets with the costs shared by the federal government, the provincial governments and the growers. For the 1986 crop year, the federal government will negotiate and share the cost of the stabilization program with sugar beet growers. For the following years, the program will be negotiated with growers and the provincial governments of Alberta and Manitoba. The tripartite agreements are currently under discussion.

4.18 Table 4.10 sets forth the schedule of payments by the sugar beet processors and the Agricultural Stabilization Board to sugar beet growers in Manitoba and Alberta during the period 1980-1986. Normally, payment by the processor is made after harvesting and delivery of the beets to the factory, with an initial payment followed by one or more interim payments. The final payment occurs approximately one year later. As shown below, the initial payment for the 1980 crop was made in November, 1980, with interim payments in March, June and September following, and a final payment in December 1981. The same method of payment also applied in subsequent crop years. Total payments for 1980 therefore include some payments for the 1979 crop. The 1985 figures for Alberta, when no crop was planted, refer to payments for the 1984 crop.

TABLE 4.10: SUGAR BEETS - SCHEDULE OF PAYMENTS TO GROWERS, MANITOBA AND ALBERTA, 1980-1986

- $/tonne -

	1980	1981	1982	1983	1984	1985	1986
MANITOBA:							
Feb		24.80(a)					
March		4.00	2.40	2.10	3.00	3.35	3.40 (1.20)(b)
June	7.50	4.25	0.95	6.00	2.80	2.10	2.50
Sept	18.50	4.25	1.55	5.50	3.90 (10.43)(c)	3.00	2.80 (4.00)(d)
Oct							(12.43)(e)
Nov(f)	40.00	30.00	25.00	28.50	24.00 1.42	15.00	15.10 1.04 (2.70)(b)
Dec		3.11	2.10	(4.33)(g) 2.81		1.54 (6.00)(d) (6.00)(b)	
	66.00	70.41	32.00	49.24	45.55	36.99	45.17
ALBERTA:							
Jan	6.48(a)	5.30		1.85	1.10	1.75	
Feb	3.00						
May	6.00	7.00	2.85	5.00	2.25	1.75	
Aug	12.00	6.00	3.50	7.00	2.50	1.00	
Oct	14.00	7.00	1.75	4.50	1.75	0.50	(12.43)(e)
Nov(f)	40.00	32.00	25.00	30.00	25.00 (10.07)(c)		15.10
Dec	9.55	1.69 1.75(f)	1.34	2.17 (4.69)(g)	1.16	1.49	
	91.03	60.74	34.44	55.21	43.83	6.49	27.53

Note: Figures in brackets () denote Stabilization Board Payments; all other data refers to payments by the sugar factories.

(a) Partial Payment for crops prior to 1980.
(b) Provincial Stabilization Payment for 1985 crop.
(c) Federal Stabilization Payment for 1982 crop.
(d) Federal Stabilization Payment for 1985 crop.
(e) Federal Stabilization Payment for 1986 seeding incentive.
(f) Initial factory payment for next year's crop.
(g) Federal Stabilization Payment for 1981 crop.

Source: Tariff Board.

4.19 From the payment dates indicated in Table 4.10 it is evident that the final payment from the processor for most years was not received until 13 or 14 months after delivery of the beets, or about 25 months after the initial autumn plowing and application of fertilizer. Adding the lapse of time until the receipt of a deficiency payment, the total length of time from the initial expenditures by the grower to the receipt of the final deficiency payment is about 36 months, or three years. For example, while growers ploughed the land and applied fertilizer in the fall of 1980 for the 1981 crop and harvested it about 12 months later in the fall of 1981, it was not until the fall of 1983, or three years later, that a deficiency payment was actually received. While this delay is frequently seen as a shortcoming of the present system, it is due for the most part to the fact that the grower's average price per tonne for sugar beets is predicated on the processor's selling price for the refined beet sugar which cannot be finally determined until the sugar beets have been processed and the resulting sugar stocks have been sold, usually 25 months after fall preparation.

4.20 The schedule of payments by the sugar beet processors determines, together with deficiency payments, the cash income derived by growers from sugar beet production. Table 4.11 summarizes such cash income and provides a comparison with the cash costs of production. In 1980 and 1981, the most favourable years for beet growers, cash income exceeded cash expenditures by some margin. In 1980, for example, beet growers in Manitoba received $15.9 million from the Manitoba Sugar Company yielding, after cash costs totalling $9.6 million, a positive cash balance of $6.3 million. In both 1980 and 1981 cash receipts exceeded cash expenditures, the remaining amount being available to cover the grower's non-cash costs, which include provisions for a return on his investment and his labour/management. The 1983 year also resulted in a positive cash balance for Manitoba growers, although much lower than for the two earlier years. However, for the years 1982, 1984, 1985 and 1986 the cash payments received by growers from the beet processor did not cover cash expenditures. When stabilization payments are taken into account, the net cash balance of Manitoba growers is significantly improved. Nonetheless, even including stabilization payments, there were, in the 1980 to 1986 period, three years when the overall cash balance was negative.

TABLE 4.11: SUGAR BEETS - CASH RECEIPTS AND CASH EXPENDITURES, MANITOBA AND ALBERTA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- $ million -			
MANITOBA:							
Cash income(a)	15.9	22.1	12.2	15.6	11.7	7.7	8.1
Less: Cash expenditures(b)	9.6	13.0	13.9	13.9	14.2	11.9	16.4
Equals: Balance	6.3	9.1	(1.7)	1.7	(2.5)	(4.2)	(8.3)
Plus: Stabilization payments(c)	-	-	-	1.8	3.9	3.3	3.8
Equals: Balance	6.3	9.1	(1.7)	3.5	1.4	(0.9)	(4.5)
ALBERTA:							
Cash income(a)	46.3	38.3	18.6	26.8	17.8	3.3	9.0
Less: Cash expenditures(b)	13.7	16.6	15.2	16.0	15.0	-	21.0
Equals: Balance	32.6	21.7	3.4	10.8	2.8	3.3	(12.0)
Plus: Stabilization payments(c)	-	-	-	3.3	4.8	-	6.1
Equals: Balance	32.6	21.7	3.4	14.1	7.6	3.3	(5.9)

(a) Cash income corresponds to the figures shown in Table 4.8 multiplied by the relevant quantities of beets delivered to the Manitoba Sugar Company and the Alberta Sugar Company.

(b) The estimated cash expenditures correspond to the Canadian costs shown in Table 4.6 for a standard tonne. The expenditures in Table 4.11 are based on field tonnes, reflecting the actual sugar yield for each province.

(c) The stabilization payments correspond to the amounts shown in the relevant annual reports of the Agricultural Stabilization Board.

Source: Tariff Board.

4.21 Table 4.11 also shows, in the same manner, the cash position of beet growers in Alberta. In contrast to Manitoba, cash receipts exceeded cash expenditures in all years under review except 1986, when the cash flow cycle was interrupted because no crop was planted in 1985.(1) In that year the large cash balance was significantly reduced by the amount of stabilization payment. Also, in 1983 and 1984, income from stabilization payments (paid for the 1981 and 1982 crops) substantially improved the overall cash position.

4.22 The data presented in Table 4.11 cover only cash costs and does not reflect total production costs, as non-cash charges are excluded. There are considerable difficulties in both concept and actual measurement in accurately estimating non-cash costs for farm enterprises and the Board did not attempt such a survey. The recent provincial studies available for Alberta(2) provide at least a rough approximation of non-cash charges and therefore of total production costs; such non-cash costs were estimated to be 41 to 45 per cent of total production costs. This method of estimation suggest that in 1980, 1981 and 1983 the total income of growers was sufficient to cover fully both cash and non-cash costs; a deficit between income and total production costs is indicated, however, for 1982, 1984 and, in particular, 1986 (in 1985 Alberta did not produce sugar beets). For Manitoba, this approach must be qualified because of different growing practices. It does appear from this that in Manitoba total income would have probably covered total production costs in 1980 and 1981 while all other years under review would have resulted in deficits.

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(1) 1986 data is preliminary only.
(2) Op. cit., footnote (1), p. II-42.

4.23 Census data for 1981 indicates the relative importance of sugar bee growing in certain specific regions. In Alberta in 1981 the total cas income from sugar beets ($38.3 million) represented 1.2 per cent of th total value of all agricultural products sold in that province However, sugar beets are more significant in the main growing centres specifically Alberta census division number 2, where 90 per cent of tha province's sugar beet acreage is located. In that census division while the principal field crop is wheat, sales from sugar beet nonetheless represented approximately 7 per cent of all farm sales an sugar beets were the second most important crop. In the earlie mentioned Alberta studies it was noted that, for the irrigated far lands surveyed, sugar beets contributed more than 33 per cent of total farm cash receipts while accounting for only 15 per cent of the seede acreage.

4.24 In Manitoba, similarly, the total cash income from sugar beets ($22. million) represented 1.5 per cent of the total value of all agricultural goods sold in that province. Nonetheless, in Manitoba census divisio number 3, accounting for 67 per cent of the province's sugar bee acreage, beet sales comprised about 8 per cent of the district's total farm sales and, after wheat, represented the second most important fiel crop.

The Processing of Sugar Beets

4.25 Sugar beets are processed in two factories, one in Taber, Alberta, an one in Winnipeg, Manitoba. These two plants process sugar beets onl and were designed solely for this purpose. Another beet processin plant operated by Canadian Sugar Factories Ltd., at Picture Butte Alberta was closed in 1976. A beet processing plant in St. Hilaire Quebec, ceased operations at the close of the 1985 season, and the las beet sugar processing plant in Ontario (Wallaceburg) closed down i 1968.

4.26 The volume of beets processed in Canada was as high as 1.2 million tonnes in 1981, then including Quebec, and as low as 855,000 tonnes in 1979. In 1985 only 300,000 tonnes of beets were processed because the Alberta growers and the processor were unable to reach an agreement on the price for beets. The two beet factories on the Prairies will process close to 950,000 tonnes of beets in the 1986 crop year, a near record volume as growing conditions were ideal. Sales of the refined beet sugar are estimated at 96,000 tonnes in 1985, a volume which is lower than the average of approximately 112,000 tonnes for the 6 years 1980 to 1985. In 1986, beet sugar sales are estimated at only 59,000 tonnes given the absence of an Alberta crop in 1985. Additional production data for refined sugar from beets, with a comparison to cane sugar production, is given in Appendix Table 22.

4.27 The beet factory in Taber, a town with a population of 6,500, makes a major contribution to the economy of the town and the surrounding region. The plant employs 40 to 60 full-time employees and 100 to 120 seasonal workers. Their wage and salary income, together with the cash income of the beet growers, has a multiplier effect on the local and regional economy from the spending for farm equipment and other goods and services. For instance there are expenditures estimated at $6 million for the trucking industry, for the transport of fuel, sugar beets, fertilizers, and other raw materials.

Beet Sugar Prices and Processing Costs

4.28 Refined sugar from beets is marketed in the same form as cane sugar, that is, as granulated white or granulated yellow/brown, as icing sugar, or as invert sugar in liquid form (see Appendix Table 18).

4.29 Data respecting the retail price of refined sugar (both cane and beet is given below for some of the major consuming centres in Canada:

TABLE 4.12: RETAIL PRICE OF REFINED GRANULATED SUGAR, CANE OR BEET, SELECTED CITIES, CANADA, 1980-1985

	Halifax	Montreal	Toronto	Winnipeg	Edmonton	Vancouve
			- Cdn.$/kg -			
1980	1.53	1.46	1.73	1.69	1.77	1.63
1981	0.87	0.86	0.70	0.79	1.02	0.83
1982	0.61	0.76	0.85	0.76	0.94	0.70
1983	0.76	0.95	0.93	0.88	0.98	0.87
1984	0.70	0.74	0.97	0.75	0.84	0.80
1985	0.44	0.79	0.69	0.55	0.59	0.76

Source: Statistics Canada, Cat. No. 62-010 Consumer Prices and Pric Indexes.

Transportation costs are an important factor in determining sellin prices for sugar, and the consumer markets in the Prairie region tend t be partly insulated from competition with eastern cane sugar price because of added transport charges. As suggested by the data i Table 4.12, retail sugar prices tend to be higher in Edmonton compare to Vancouver and Edmonton prices in turn appear to be higher relative t those prevailing in Winnipeg, a market more accessible to the easter cane refiners. However, a comparison of retail price does not show wit any accuracy the importance of transport cost since such retail price are influenced by local price competition and by other factors at th wholesale and retail levels.

4.30 From confidential data made available to the Board, it is nevertheles evident that the selling price per kilogram received by processors o refined beet sugar has generally been higher than that realized by th refiners of cane sugar. This price differential reflects the protectio accorded to the Prairie sugar beet processors by the added transpor costs faced by eastern cane refiners should they wish to penetrate th Prairie market for sugar.

4.31 It is also evident that the price of raw cane sugar, and hence the price of refined cane sugar, is the major determinant of the price level of beet sugar. The price of beet sugar cannot exceed the cane sugar price plus transport cost, without loss of market share. In turn, the price of refined beet sugar determines the dollar amount available to meet the costs of the processor (including a return on capital). The residual remaining is the dollar amount left to cover the costs of the beet grower (including a return on his investment and management). The data available indicate that in 1983, 1984 and 1985, as the world price of raw sugar declined to their lows of the years prior to 1973, the average price realized from the sale of beet sugar was insufficient to meet combined growing and processing costs, even when taking into account by-product sales. Consequently, the impact of low cane sugar prices has been to depress the average price paid per tonne to sugar beet growers so that in 1983, 1984 and 1985, the price per tonne was less than total growing costs.

4.32 Table 4.13 on the following page presents estimates respecting the cost of processing sugar beets in Alberta and Manitoba. The data are in indexed format as the table is based on information received in confidence. Since 1981, due to the sharp decline in refined cane sugar prices, with which beet sugar must compete, the average price per kilogram realized by the beet sugar processor has also dropped greatly, by nearly 50 per cent between 1981 and 1985. Average revenue per kilogram, including the sale of by-products, has also declined markedly. The table also shows the reduced cost of sugar beets which, of course, is reflected in the lower price per tonne paid to beet growers since 1981:

TABLE 4.13: BEET SUGAR - AVERAGE PRICE, COST OF SUGAR BEETS AND ESTIMATED OPERATING MARGINS, MANITOBA AND ALBERTA, 1980-1985

	Average Price for Refined Sugar(a)	Average Price for By-products(b)	Total Average Revenue(c)	Cost of Sugar Beets Used(d)	Estimated Gross Operating Margin(e)
	Indexed - Cdn.¢/kg				
1980	93.8	84.7	92.8	143.9	65.0
1981	100.0	100.0	100.0	100.0	100.0
1982	72.1	95.5	74.5	96.8	62.4
1983	65.0	96.4	68.3	88.5	57.3
1984	62.0	102.7	66.2	75.9	60.9
1985	52.2	99.1	57.1	52.9(f)	59.3

(a) Represents shipments of refined sugar of two companies.
(b) Represents shipments of beet inedible molasses and beet pulp.
(c) Equals total revenue per kg from refined beet sugar and by-products.
(d) Represents average (weighted) cost of sugar beets used in the production of refined sugar and by-products, per kilogram of refined sugar.
(e) Represents spread between sugar beet cost and the average revenue from refined sugar plus by-products.
(f) Manitoba only.

Source: Tariff Board Questionnaires.

4.33 A comparison of the confidential data on beet processing costs in Canada (Alberta and Manitoba) with similar statistics in the United States suggests that, beginning in 1983, such costs have been somewhat higher in Canada. In that year average beet processing costs in the United States dropped substantially because some less efficient processors ceased operations as sugar demand declined as a result of continued competitive pressure from HFCS and artificial sweeteners.

Employment

4.34 There are at present 1,100 beet growers in Manitoba and Alberta. However, sugar beets, grown in rotation with other cash crops, do not comprise the only activity for these farmers. On the other hand, many growers require full-time and seasonal workers, especially the latter, for growing and harvesting the beet crop. Processing of the 1986 crop provided full-time employment for over 200 persons. In addition, the two sugar factories hired about 285 seasonal workers for a 3-4 month period. Converted to a year-round basis employment in beet processing totalled some 275 person-years in 1985. The comparable figure for 1980 was 315, indicating a decline in full-time employment of some 13 per cent.

Consumption

4.35 Beet sugar consumption in 1985 totalled about 96,000 tonnes and usually has approximated 10 per cent of the total domestic disappearance of sugar. Because Alberta did not plant a crop in 1985, consumption of beet sugar declined to 59,000 tonnes in the following year. This decline also reflects, to a minor degree, the cessation of commercial sugar beet farming in Quebec. Being produced and consumed locally, beet sugar was more prominent in meeting domestic demand prior to 1968 when southwestern Ontario was still a major sugar beet growing area. At that time, beet sugar may have accounted for as much as 15 per cent of total domestic sugar use. Beet sugar produced in Alberta and Manitoba is usually sold in the Prairie market although in some years small quantities have been exported to the U.S. market.

CHAPTER 5: THE CANADIAN CORN SWEETENER INDUSTRY

5.1 The corn sweetener industry is reviewed in this Chapter. Glucose, dextrose and HFCS are corn derivatives. HFCS production is highlighted because it is specifically mentioned in the Minister's letter as an area of concern. Glucose output has changed little over the period under study and, furthermore, the pertinent data are confidential. There is no domestic production of dextrose and therefore all domestic requirements are imported. A review of the grain corn growing industry opens this Chapter.

Grain Corn: Production, Growing Costs, Prices and Use

Production

5.2 According to the 1981 Census, there are about 35,000 farmers growing grain corn in Canada: 26,000 are in Ontario and 9,000 in the other provinces, mainly Quebec.

5.3 Canada produced 6.6 million tonnes of grain corn in 1986, an increase of about 900,000 tonnes over the 5.7 million harvested in 1980. Corn imports and exports of grain corn totalled 683,000 tonnes and 387,000 tonnes, respectively, in 1986. Thus, corn consumption is currently 7.6 million tonnes annually. In the period reviewed, domestic requirements have been met increasingly from local output and less from imports and thus grain corn production has grown more than consumption. These trends are evident in the summary statistics presented below:

TABLE 5.1: GRAIN CORN, PRODUCTION, IMPORTS, EXPORTS AND DOMESTIC CONSUMPTION IN CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- '000 tonnes -			
Production	5,753.2	6,673.7	6,512.9	5,932.8	7,023.5	7,474.4	6,664.7
Imports	1,204.7	1,245.4	783.1	331.2	471.1	505.1	682.9
Exports	748.9	1,210.2	715.4	453.9	498.5	328.4	387.0
Consumption	6,209.2	6,708.9	6,580.6	5,810.1	6,996.1	7,649.1	6,960.6

Source: Statistics Canada Cat. Nos. 65-202, Exports: Merchandise Trade; 65-203, Imports: Merchandise Trade and Computer Printouts.

5.4 Ontario accounted for about 76 per cent of grain corn output in 1986 Remaining production is largely in Quebec where production has increase in recent years (see Table 5.2):

TABLE 5.2: GRAIN CORN PRODUCTION BY PROVINCE, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- '000 tonnes -			
Quebec	838.2	975.4	1,040.0	975.0	1,350.0	1,550.0	1,450.0
Ontario	4,710.0	5,236.0	5,195.0	4,696.0	5,391.0	5,802.0	5,093.0
Other(a)	205.0	462.3	277.9	261.8	282.5	120.4	121.7
Canada	5,753.2	6,673.7	6,512.9	5,932.8	7,023.5	7,472.4	6,664.7

(a) Includes Nova Scotia, Manitoba and Alberta.

Source: Statistics Canada, Handbook of Field Crop Area, Yield, Production Average Farm Price and Value, 1953-1983, November, 1985. Statistic Canada, Computer Printouts, 1981-1986.

Growing Costs

5.5 A recent study of grain corn growing costs indicates that in Ontario where most production occurs, growing costs are competitive with, o lower than, comparable U.S. costs. Table 5.3 presents growing costs fo Ontario vis-à-vis those for Ohio and Iowa, both major grain cor producing regions in the United States. Based on this study, Ontari growing costs total about $3.60 per bushel compared to a slightly highe figure for Ohio, $3.72 per bushel, and a much higher figure for Iowa $4.14 per bushel. Individual costs shown below for the three growin areas may vary appreciably since different producing systems are used For example, in Iowa there is more extensive use of fertilizer. A well, for the growing area used in the Iowa study, land values were muc higher than in Ohio or Ontario.

TABLE 5.3: GRAIN CORN PRODUCTION COSTS IN ONTARIO, OHIO AND IOWA, 1985

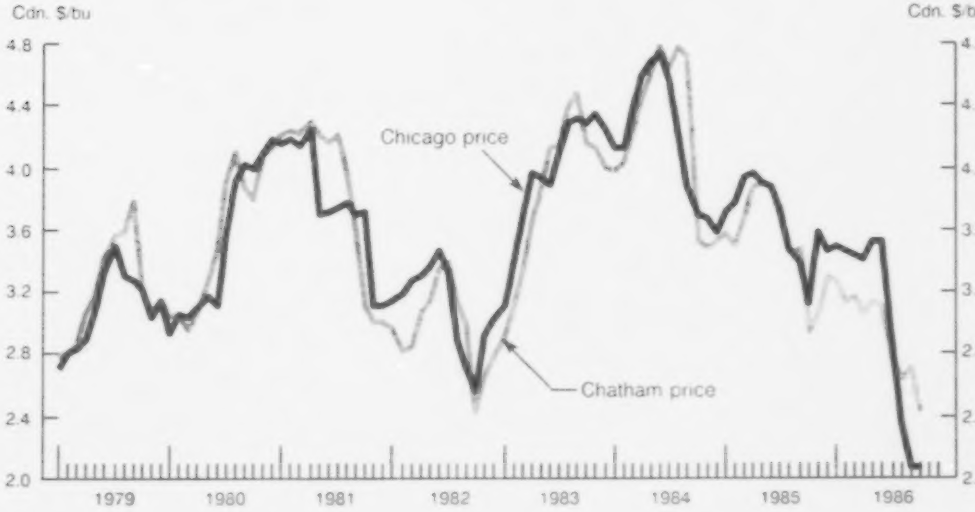
	Ontario	Ohio	Iowa
Estimated yield per acre (bushels)	94	90	113
Labour hours per acre (hours)	3.0	4.0	3.6
VARIABLE COSTS:	dollars per acre (Canadian)		
Seed	$ 25	$ 27	$ 26
Fertilizer	47	51	70
Sprays	29	19	38
Drying	32	19	16
Crop insurance	7	..	9
Machine operation	38	51	37
Interest on Oper. Capital	15	12	16
VARIABLE COSTS			
- per acre	$193	$179	$212
- per bushel	$ 2.05	$ 1.99	$ 1.84
FIXED COSTS:			
Labour	$ 19	$ 25	$ 30
Machine overhead	46	68	64
Land charges	65	48	158
Miscellaneous	15	15	12
FIXED COSTS			
- per acre	$145	$156	$264
- per bushel	$ 1.54	$ 1.73	$ 2.29
TOTAL COSTS:			
- per acre	$338	$335	$476
- per bushel	$ 3.60	$ 3.72	$ 4.14

Source: Fisher, G.A., "A Comparison of Grain Production Costs in Ontario and the United States", Ontario Corn Producers, July-August, 1985.

Prices

5.6 The price of corn in Canada historically has been determined by corn prices in the United States. This is evident in Figure 5.A on the following page, which shows U.S. prices quoted by the Chicago Board of Trade and quotations at Chatham, Ontario for Canadian corn alongside the elevator. When Canadian supplies are inadequate to meet local demand and Canada must import, Chatham prices exceed Chicago prices by the additional costs to transport U.S. corn to Chatham, by the duty payable upon entry into Canada and by the difference in the exchange rate.(1)

Figure 5A
Grain Corn – Prices, Canada and United States, 1979-1986(a)



(a) Canadian price is based on Chatham, Ontario quotations and U. S. price on Chicago quotations.
Source: Appendix Table 21.

5.7 When the Canadian industry is on an export basis Chatham quotations are below Chicago prices by the added costs of entering the U.S. northeastern market in competition with U.S. corn suppliers. Over the past 15 years Canada has become increasingly self-sufficient, thereby reducing import requirements and shortening the period of the year during which it is dependent on imports. In recent years the latter situation has occurred only during the August-October period, i.e., when previous year's inventories are running out just before the new crop is harvested.

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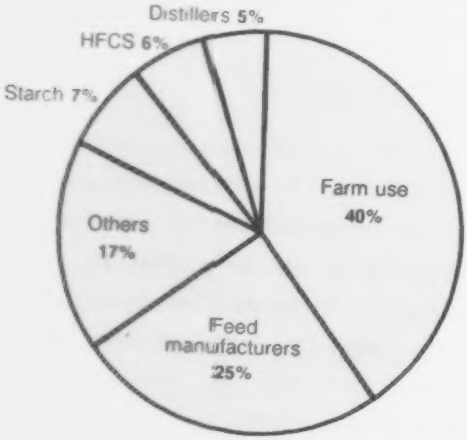
(1) Pursuant to a finding by the Canadian Import Tribunal of March 6, 1987, a countervail duty of 84.9 U.S. ¢ per bu. will apply to certain importations of grain corn from the United States. Although the ultimate effect of this duty upon domestic corn prices is difficult to predict, this duty will likely increase the normal price gap between prices quoted in Chicago vis-à-vis Canadian price quotations.

Use

5.8 Grain corn has a number of uses although at least 40 per cent of domestic consumption is for farm use as feed for hog growers, egg producers, and poultry farmers. There is, as well, a significant industrial use by manufacturers of mixed and prepared animal feeds, by distillers and by manufacturers of breakfast cereals. According to the Census of Manufacturers data for 1984, feed manufacturers across Canada utilized 1.7 million tonnes of grain corn in 1984, nearly 25 per cent of Canadian consumption. About 15 per cent of the Ontario crop is for this purpose. In 1984 Canadian distillers utilized about 250,000 tonnes of grain corn, mainly in the form of flakes and grits.

Figure 58

The Use of Grain Corn in Canada, 1984



Source: Statistics Canada

5.9 Corn used in the wet milling process to produce corn starch and corn sweeteners accounted for 13 per cent of total grain corn consumption in 1985. HFCS utilized less than half of that amount, currently accounting for about 6 per cent of total Canadian grain corn consumption. Certain regions and within these certain growers, particularly those in the vicinity of HFCS processing plants, ship a much larger proportion of their crop to HFCS plants than do outlying growers.

5.10 In the processing of corn sweeteners grain corn is the primary cost component, accounting for roughly one-half of all production costs. Similarly, for many other manufacturing processes and many farm related activities, grain corn also constitutes an important input. For example, corn used by the Canadian feed industry in 1984 was valued at $305 million, accounting for about 12 per cent of that industry's total production cost. Corn is less important in distilling, comprising about 5 per cent of production costs. Data available from Agriculture Canada indicates that grain corn comprises about 14 per cent of the cost of raising poultry (broilers) and, in the case of egg production, 12 per cent. For a typical steer-calf feedlot operator, grain corn accounts for some 40 per cent of feed costs, equivalent to 10 to 15 per cent of the total cost for this operation.

Corn Sweeteners

5.11 Corn sweeteners include glucose (mainly corn syrup), dextrose and high fructose corn syrup (HFCS). These corn derivatives are normally used in liquid form. The first two, glucose and dextrose, have been on the market for some time, while the commercial production of HFCS on a large scale is relatively new. Although glucose in the form of corn syrup has been and is still used by Canadian consumers, its major use is industrial. This is even more so for dextrose, while HFCS is used solely as an industrial sweetener.

5.12 The production process for corn sweeteners consists of two operations, wet milling and refining. The output of these two processes is referred to as first generation HFCS with a 42% fructose content. Further processing of that output produces second generation HFCS with a 90% fructose concentration from which 55% HFCS is created by blending. In the several operations constituting wet milling, the cleaned and shelled corn is soaked (steeped) in water with sulfur dioxide and, after degermination, is treated through separators and grinding mills to yield certain initial by-products (such as corn gluten feed and meal). Starches, both industrial and edible, are also wet milling products. Processing into nutritive sweeteners involves a second stage of multi-step refining, whereby the starch derived from wet milling is further processed. In the case of HFCS, the final product results from the isomerization process, namely, the enzymatic conversion of dextrose into fructose. Both the wet milling process and subsequent refining require, for efficiency, a continuous 24 hour operation of production facilities.

5.13 Compared to sucrose (which is refined sugar with a sweetness content or rating of 100) HFCS 42 has a sweetness rating of approximately 94, while HFCS 55 has a rating about equivalent to that of sucrose. Relative to refined sugar, HFCS products have certain technical disadvantages in that their use requires special containers and handling equipment as well as temperature control.

HFCS Processing

5.14 In Canada, CASCO is the sole producer of HFCS which it processes at three Ontario plants located in Port Colborne, London and Cardinal. The Port Colborne facility is dedicated exclusively to HFCS. The London plant produces a small volume of glucose as well as HFCS, while three-quarters of the output of the Cardinal plant is glucose and the remainder is HFCS. The plant operated by St. Lawrence Starch Company, Limited in Mississauga also makes glucose. In the case of glucose (mainly sold as corn syrup), CASCO competes with St. Lawrence Starch Company. Combined HFCS capacity of CASCO's three plants is about 1,100 tonnes per day.

5.15 HFCS production commenced in 1979 at Cardinal where Canada Starch Company Inc. had been operating a traditional wet-milling facility. In 1981 Zymaize Company, a John Labatt Limited/Redpath Industries Limited joint venture, started to produce HFCS in a modern facility in London. In the following year Canada Starch opened a second HFCS plant in Port Colborne. In 1984 CASCO was formed by a merger of Canada Starch Company Inc. and Zymaize. CASCO is jointly owned by John Labatt Limited and CPC International Inc., a U.S. firm engaged in HFCS production which already had a controlling interest in Canada Starch.

5.16 Until 1983, Canadian HFCS production consisted of the 42% fructose product only. In 1983, production of 90% syrup was initiated; this has been sold blended with HFCS-42 as HFCS-55. At present CASCO ships slightly more of the latter than of HFCS-42 and only a minor volume of HFCS-90.

5.17 Initially the company used about 80 per cent imported U.S. corn in its wet milling operations. Since 1980, the share purchased locally has increased so that in 1985 less than 15 per cent was imported. In 1986, it processed exclusively domestic corn. During the corn harvesting season CASCO processes shelled corn straight off the field. During the remainder of the year it purchases dried corn out of commercial storage because CASCO itself has corn storage capacity for 10 days processing only. HFCS uses about 8 per cent of Ontario's output of grain corn which is equivalent to 6 per cent of the national output. Despite the added demand for grain corn for HFCS processing, this incremental demand has been met by domestic corn production at competitive prices.

5.18 The production of HFCS yields a number of by-products, namely, corn gluten feed, corn gluten meal, corn germ meal, corn steep liquor and crude corn oil. In 1985, the sales of these by-products accounted for 25 per cent of gross revenues from HFCS operations. For the period 1980 to 1985, the average contribution of by-products to gross revenues was 26 per cent. For the period under study beginning in 1980, on average, 50 per cent of the cost of the corn utilized was recovered by the sale of by-products. Revenue from HFCS sales covered the remaining 50 per cent of the cost of corn and the total cost of all other inputs combined, as well as profits.

HFCS Production and Consumption Trends

Production:

5.19 The Canadian production of HFCS is estimated at 360,000 tonnes in 1986 based on capacity utilization figures supplied during the public hearing. For the other years under review, precise figures for production and consumption are confidential, CASCO being the sole Canadian producer. For the 1986 year domestic consumption of HFCS totalled roughly 106,000 tonnes as follows:

	Tonnes
Production	360,000
Imports	3,172
Domestic Supply	363,172
Exports(1)	256,800
Domestic Consumption	106,372

5.20 Since 1980, Canadian production of HFCS has expanded nearly nine-fold; however, in contrast to earlier years the bulk of such production is now exported. These trends are illustrated in Figure 5.C.(2) on the following page. Until 1982 the entire Canadian output of HFCS was consumed domestically as CASCO sold only on the Canadian market. Canadian consumption continued to rise until 1983, in which year production volume expanded greatly, by over 50 per cent, due to export shipments to the U.S. market. Between 1983 and 1985 sales of HFCS in the domestic market declined by nearly 40 per cent while exports increased by some 300 per cent. In 1986, as noted, CASCO produced an estimated 360,000 tonnes of HFCS of which over two-thirds were sold in the United States.

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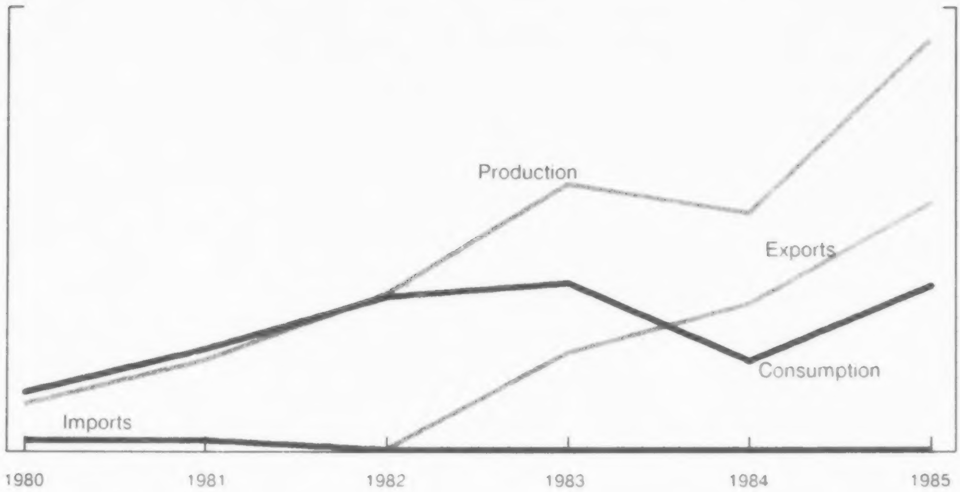
(1) Based on U.S. import statistics, partly estimated (from 11 months actual).

(2) In Figure 5.C actual volumes are not indicated as base data are confidential.

Figure 5C

HFCS - Production, Consumption and Trade, Canada, 1980-1985



Source: Tariff Board

5.21 Table 5.4 below demonstrates, since 1980, the connection between the price of sugar, HFCS prices, corn costs and gross operating (milling) margin. As the data used for this Table are confidential the figures are given on an indexed basis (1981 = 100):

TABLE 5.4: HFCS, AVERAGE PRICE, COST OF CORN, AND ESTIMATED GROSS OPERATING MARGIN, CANADA, 1980-1986

	Average Price for Refined Sugar	Average Price for HFCS	Average Price for By-products	Total Average Revenue	Cost of Corn	Estimated Gross Operating Margin
	Indexed - Cdn.¢/kg (1981=100)					
1980	93.8	0.80	0.71	0.78	1.24	0.58
1981	100.0	1.00	1.00	1.00	1.00	1.00
1982	72.1	0.66	1.00	0.75	1.12	0.58
1983	65.0	0.59	0.64	0.60	1.29	0.29
1984	62.0	0.73	0.64	0.71	1.35	0.42
1985	52.2	0.68	0.64	0.67	1.06	0.50
1986 (a)	..	0.76	0.57	0.71	0.94	0.61

(a) January to June only.

Source: CASCO brief.

Since 1981, the average selling price for HFCS has declined as has the selling price for its various by-products. Furthermore, over the 1981-1985 period, the price of corn, the main input, has been higher, particularly in 1983 and 1984, than that prevailing in 1981. Consequently, there has been pressure on the gross operating margin which, for 1985, was about 50 per cent of the spread realized in 1981.

Consumption:

5.22 The decline in domestic HFCS consumption after 1983 can be directly linked to the reduction in world raw sugar prices and to the consequent decline in the domestic price of sugar to a level which in turn, depressed HFCS prices. To make matters worse this coincided with a significant rise in the cost of corn and a drop in the selling price for by-products. From the confidential data provided these developments evidently made the production of HFCS non-profitable.

5.23 While data on HFCS production costs in Canada are confidential, such information is available for a number of years for the United States (see Table 5.5). A U.S. study, in commenting on these figures, stated that the Canadian industry "had similarly low costs".(1) A comparison

TABLE 5.5: HFCS-42, PRODUCTION COSTS,(a)
UNITED STATES, 1980-1984

	U.S.¢/lb.	Cdn.¢/kg
1980	12.91	33.3
1981	13.88	36.7
1982	12.24	33.3
1983	15.75	42.8
1984	16.03	45.8

(a) Dry weight basis.

Source: Hoff, Frederic L. and Lawrence, Max "Implications of World Sugar Markets, Policies and Production Costs for U.S. Sugar".

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(1) Hoff, Frederic L. and Lawrence, Max; "Implications of World Sugar Markets Policies and Production Costs for U.S. Sugar", p. 15.

with Canadian data suggests that domestic HFCS producers were economically viable in 1980, 1981 and 1982 but probably failed to cover costs of production in 1983 and 1984. Other available data suggests that HFCS production was on a break-even basis in 1985 and 1986. Further, the problems encountered by CASCO, in 1983 and 1984 in particular, are reflected in the financial statements of the public company report for the Canada Starch Group.(1)

5.24 The decline in domestic sales of HFCS reflects its decreasing use by CASCO's main industrial customers. Such industrial users are able to switch quite quickly from HFCS to cane sugar products, and vice versa. The four largest HFCS industrial consumers in 1983, the record year for domestic consumption, were bakeries, wineries, soft drink bottlers, and the fruit and vegetable processing industry. These four industries purchased in that year more than 80 per cent of total domestic HFCS sales. In 1985 the purchases by these same four industries totalled less than half as much as two years earlier. The confectionery and dairy products industries are also significant users of HFCS.

HFCS Pricing

5.25 The price of HFCS is determined by the price of refined sugar since these two sweeteners compete in essentially the same market. When the price of HFCS is the same or higher than the price of sugar there will be no substitution by this corn sweetener. In fact, HFCS must be offered at a discount off the price of sugar in order for the substitution of HFCS for refined sugar to take place, a discount which must be substantial if significant market penetration is to be achieved. To some extent, this discount appears needed to compensate for certain technical factors, as discussed, and because of the lower sweetness rating of HFCS 42 relative to sugar. In the United States the discount for HFCS 42 averaged 33 per cent for the period 1980-1985, being as high as 48 per cent in 1982 (see Appendix Table 7). In that period the average discount for HFCS 55, which has a higher sweetness rating, was 21 per cent. In the United States, HFCS products had 34 per cent of the natural sweetener market in 1985.

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(1) According to the 1985 company report, net income averaged $13 million over 1981 and 1982 whereas a loss was incurred in 1983 and 1984, of $6 and $5 million, respectively.

5.26 When the price of refined sugar is about the same as the cost of producing HFCS, the latter cannot be offered at a discount, at least in the long run, because it would be unprofitable to do so. Furthermore, market penetration will not be as rapid or pervasive if the price of refined sugar does not permit discounts in the order of those prevailing in the U.S. market in recent years. This is the present situation in Canada where the price of sugar currently is unusually low and at a level about equivalent to the production cost for HFCS. As a consequence, in Canada there is much less scope than in the United States for a discount on HFCS and such discounts are, in comparison to the U.S. market, much less.

HFCS Imports and Exports

5.27 In the late 1970's, imports of HFCS were normally between 11,000 to 13,000 tonnes annually. Such imports commenced to decline in 1981 and dropped abruptly in 1982, to 1,700 tonnes. Since 1981 annual HFCS imports have averaged only some 1,700 tonnes. This sharp decrease reflects steadily expanding HFCS production by CASCO and the increased availability of domestic supplies.

5.28 Exports of HFCS to the United States occurred after 1982 because, under the sugar policy in that country, sugar prices were supported at a minimum well above the level prevailing on the free market and in Canada. In 1935, Canadian sugar refiners averaged 50.1 ¢/kg and in comparison, for 1985/86 the market stabilization price in the United States was 65.9 Cdn.¢/kg (21.5 U.S.¢/lb.) for cane sugar. U.S. wholesale prices for HFCS-42 and HFCS-55 were 53.5 and 60.1 Cdn.¢/kg, respectively, these prices being substantially higher than the HFCS prices realized in the Canadian market.

Glucose and Dextrose

5.29 Data on the domestic production of glucose, the other corn sweetener produced domestically, is also confidential. Glucose is made by CASCO at its Cardinal and London plants and also by St. Lawrence Starch Company, Limited. Dextrose is not produced in Canada and imports of this corn sweetener totalled 25,000 tonnes in 1985 (see Table 5.6).

TABLE 5.6: DEXTROSE, IMPORTS, VOLUME AND VALUE, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
Volume (tonnes)	26,110	25,688	18,646	24,633	34,061	25,004	34,807
Value ($000)	13,914	14,184	9,635	12,262	18,263	13,907	19,095

Source: Statistics Canada, Cat. No. 65-203 Imports: Merchandise Trade.

Employment in the Corn Sweetener Industry

5.30 The employment figures made available to the Board for the corn sweetener industry are sketchy, particularly with respect to the segment for corn glucose. The best estimate that can be made, based on 1984 figures, is that employment in the processing of corn sweeteners totals some 675 persons. The production of HFCS and glucose is both material and capital intensive and therefore labour is a relatively small component of total production cost.

CHAPTER 6: NATURAL SWEETENERS IN CANADA - SUMMARY

6.1 The data and information provided in the earlier Chapters is collated in this Chapter in order to view, as a whole, the Canadian natural sweetener industry. The principal focus is on recent patterns of consumption. Also examined in this Chapter is the industrial use of sweeteners and the likely impact, for both industry and consumers generally, of changes in the price of sugar.

6.2 Natural sweetener production in Canada has risen rapidly since 1980 due to the expansion of HFCS output. Sweetener consumption has also increased. Despite higher production levels, and because HFCS is mostly exported, the composition of domestic consumption has not changed substantially in recent years.

Production

6.3 Canadian production of natural sweeteners has increased by about 37 per cent between 1980 and 1985. The output of refined sugar (both cane and beet) totalled 1.03 million tonnes in 1985, a volume equivalent to 1 per cent of world sugar output in that year. As shown in Figure 6.A on the following page, output of refined cane sugar has remained essentially constant for the period 1980-1985, with annual fluctuations ranging from 850,000 to 950,000 tonnes.(1) It is evident that while cane sugar remains the main natural sweetener produced domestically, representing 56 per cent of total sweetener output, from the standpoint of production this sweetener has declined in relative importance, largely due to the expanded production of corn sweeteners.

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(1) Figure 6.A does not give certain volumes as base data are confidential.

most notably in the latter year, as no beets were grown in Alberta in the 1985 crop year.(1)

6.5 In contrast to both cane and beet sugar, output levels for corn sweeteners have risen rapidly between 1980-1985, more than doubling. Almost all of this increase results from CASCO's expanded production of HFCS since 1980. There has been only a minor rise in glucose output since 1980.

6.6 Natural sweetener production in Canada also includes honey, and maple syrup and maple sugar. The combined production of these sweeteners accounted in 1985 for approximately 3 per cent of overall natural sweetener output in Canada. Of the two, honey is considerably more important in volume, with yearly production during 1980-1986 averaging 35,500 tonnes. The output of maple syrup and sugar is less, averaging 13,400 tonnes over this period. The combined yearly output of these two sweeteners, as also indicated in Figure 6.A, has remained basically unchanged since 1980, usually ranging between 45,000 to 55,000 tonnes.

Imports

6.7 Canada's imports of natural sweeteners for 1980-1986 are summarized in Table 6.1 on the following page. More detailed statistics are given in Appendix Tables 14 and 15.

6.8 Including small volumes of trade in syrup, honey and sugar maple products, imports of all natural sweeteners totalled 1.27 million tonnes in 1986. This represents an increase of 336,000 tonnes, or 36 per cent, over 1980. Of course, the bulk of these imports, and their growth, are accounted for by raw sugar. If raw sugar imports are excluded, imports of natural sweeteners in final processed form have risen from 75,800 tonnes in 1980 to 161,100 tonnes in 1986, an increase of 112 per cent.

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(1) Production as shown in Figure 6.A is based on calendar year shipments. Although beet sugar production declined greatly in 1985, shipments for that year chiefly reflect sales of the 1984 processing season.

TABLE 6.1: NATURAL SWEETENERS - IMPORTS, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- '000 tonnes -			
HFCS	11.2	10.3	1.7	1.4	1.3	1.1	3.2
Glucose	30.2	17.9	4.1	4.8	6.4	4.0	4.3
Dextrose	26.1	25.7	18.6	24.6	34.1	25.0	34.8
Total Corn Sweeteners	67.5	53.9	24.4	30.9	41.8	30.1	42.3
Raw Cane	858.1	849.5	881.4	930.3	983.3	982.3	1,109.5
Refined Sugar(a)	7.9	6.8	3.4	19.1	32.1	100.1	118.4
Other(b)	0.5	0.6	0.4	0.5	0.4	0.4	0.4
Total	934.0	910.8	909.2	980.8	1,057.6	1,112.9	1,270.6

(a) Includes cane syrup.
(b) Honey and maple syrup/sugar.

Source: Statistics Canada, Cat. No. 65-203, Imports: Merchandise Trade.

6.9 As discussed earlier, a major trade development since 1980 has been the decline in corn sweetener imports due to the sharp drop in HFCS and glucose importation, because of greater domestic availability. Another trade development has been the increase in imports of sugar in refined form. This reflects increased imports from the United States where exports are assisted by the re-export program of that country. Imports of refined sugar have recently become a factor of importance in domestic consumption, accounting in 1986 for 8.1 per cent of Canada's total natural sweetener market.

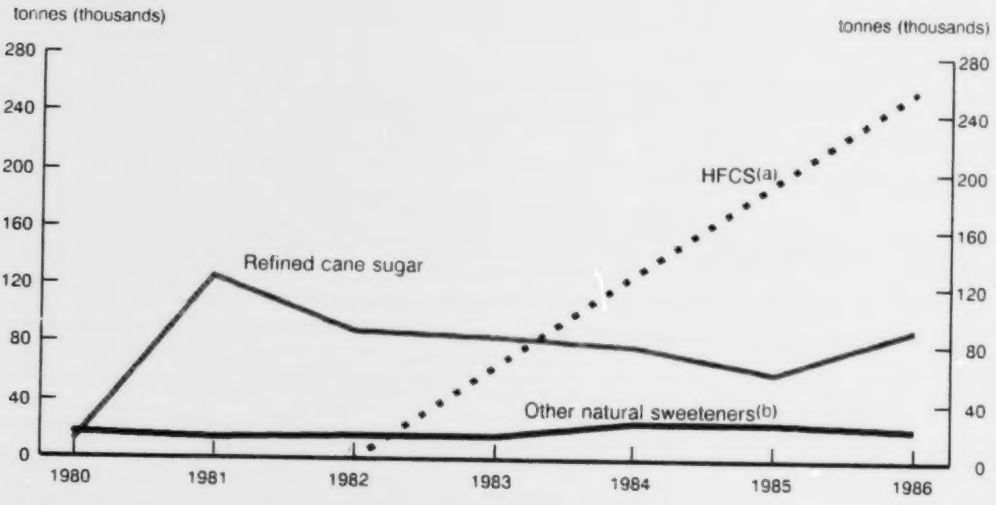
6.10 Duties collected on imports of raw sugar totalled $1,538,000 in 1985. On imports of fully processed natural sweeteners, including refined sugar, corn sweeteners, and honey/maple syrups, duties of $3,191,000 were collected in that year (see Appendix Table 25).

Exports

6.11 Exports of all natural sweeteners by Canadian producers totalled 367,000 tonnes in 1986, accounting for about 22 per cent of total production. Export sales have increased very rapidly since 1980 when they were below 30,000 tonnes. As illustrated in Figure 6.B, exports of HFCS have accounted for almost all of this expansion in natural sweetener exports. Whereas there were no exports of this sweetener in 1980, in 1986 HFCS exports reached 257,000 tonnes when they comprised 70.0 per cent of all natural sweetener exports. Foreign sales by Canadian producers of honey and sugar maple products have also risen slightly. Exports of refined cane sugar(1) rose sharply in 1981 and 1982 but have subsequently declined as quotas allocated to Canada by the United States have been reduced.

Figure 6B

Natural Sweeteners - Exports, Canada, 1980-1986



(a) There where no exports of HFCS in 1980 and 1981, data from 1982 to 1985 is confidential, 1986 data is based on U.S. imports statistics.
(b) Includes honey and maple syrup products.
Source: Appendix Table 22.

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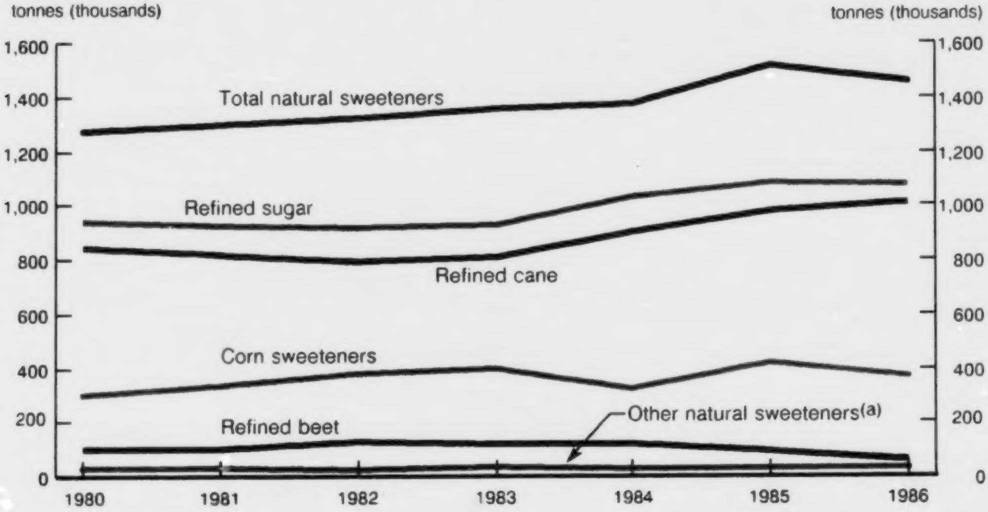
(1) Data may include, in earlier years, minor exports of refined beet sugar.

Consumption

6.12 Canadians consumed 1.51 million tonnes of natural sweeteners in 1985 compared to 1.28 million tonnes in 1980, an increase of about 18 per cent. As shown in Figure 6.C this increase in total natural sweetener consumption, of 238,000 tonnes, is shared almost equally between sugar and corn sweeteners. Consumption of the latter has grown significantly, from 300,000 tonnes in 1980 to an estimated 413,000 tonnes in 1985, an increase of 37 per cent which can be attributed almost wholly to expanding HFCS sales.

Figure 6C

Natural Sweeteners - Consumption, Canada, 1980-1986



(a) Includes honey and maple syrup products
Source: Appendix Table 22.

6.13 During the period 1980-1984 the consumption of beet sugar shows no particular trend, ranging between 102,000 to 128,000 tonnes annually. In 1985 and 1986 such consumption declined due to the lack of an Alberta crop in 1985. The consumption of the other natural sweeteners, i.e., honey and maple sugar/syrup, of about 30,000 tonnes in 1980, has declined in recent years.

6.14 Table 6.2 presents the market shares of the several sweeteners:

TABLE 6.2: NATURAL SWEETENERS - MARKET SHARES, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986[(a)]
				- per cent -			
Refined Cane	66.0	63.4	59.9	59.7	65.7	64.7	69.5
Refined Beet	8.0	8.0	9.7	8.7	8.9	6.3	4.0
Total Refined Sugar	74.0	71.4	69.6	68.4	74.5	71.0	73.5
Corn Sweeteners	23.6	25.7	28.3	29.0	23.3	27.3	24.8
Honey and Maple	2.4	2.8	2.0	2.5	2.1	1.6	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Estimated by Tariff Board.

Source: See Appendix Table 22.

6.15 There have only been minor shifts in consumption patterns from 1980 to 1985. During this period the share of the Canadian natural sweetener market held by refined sugar ranged between 68.4 per cent and 74.0 per cent. The market share held by corn sweeteners ranged from 23.3 per cent to 29.0 per cent while that for refined cane sugar fluctuated between 59.7 per cent and 66.0 per cent. The share of the total market supplied by refined beet sugar has not changed significantly having in mind that there was no Alberta crop in 1985, consequently resulting in reduced shipments both in 1985 and 1986.

6.16 If 1980 market share data is compared to that of 1986, there has been no substantial change respecting corn sweeteners. These sweeteners accounted for 23.6 per cent of natural sweetener consumption in 1980 vis-à-vis an estimated 24.8 per cent in 1986. However, this comparison masks some of the significant developments in the interim years. From 1980 to 1983, corn sweetener consumption in fact grew quite rapidly due to increased HFCS sales. Subsequently, corn sweetener sales in Canada have dropped. This development resulted from the low domestic price for refined cane sugar and, commencing in 1983, CASCO's related decision to sell the bulk of its HFCS production in the United States rather than in the domestic market.

6.17 The domestic market for sugar totalled close to 1.1 million tonnes in 1986 and the per capita consumption of sugar averaged 42.0 kg. Figures for per capita consumption have consistently been lower in the Atlantic provinces and in Western Canada than in Quebec and Ontario because sugar-using industries are more concentrated in the two central provinces. A study(1) of the Western Canadian sugar market in the early 1980's revealed a difference of 9 kg in per capita sugar consumption between that region and the national average. Substitution of sugar by HFCS in Ontario and Quebec since that time has probably reduced that gap by some 4 kg. On the assumption that per capita consumption in the Atlantic provinces is the same as in British Columbia, the regional pattern of sugar consumption would be: Atlantic Provinces-90,000 tonnes, Ontario and Quebec-710,000 tonnes, Prairie Provinces-165,000 tonnes (including 100,000 tonnes of beet sugar) and British Columbia-110,000 tonnes.

6.18 The profile of natural sweetener consumption in Canada differs quite notably from that in the United States. There, refined sugar in 1985 accounted for 49 per cent of total natural sweetener consumption whereas in Canada the corresponding percentage is much higher, 71 per cent.

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(1) This study was prepared for the Alberta Sugar Beet Growers' Association and the Province of Alberta, Department of Agriculture.

Corn sweeteners had a much greater market share in the United States than in Canada, 50 per cent, as against 27 per cent. This marked difference in sweetener usage between the two countries originates from the sugar policy pursued by the U.S. government which has resulted in the more extensive substitution of HFCS for refined sugar.

Artificial Sweeteners

6.19 A discussion of the market for natural sweeteners must also consider the growing use of non-caloric or artificial sweeteners. These sweetening agents in recent years have become increasingly popular among a consuming public more conscious of fitness and diet. A number of generic artificial sweeteners, such as aspartame, are used in Canada, primarily in industry, mainly for soft-drinks, confectionery and snack foods. A number of non-caloric sweetener products are retailed in Canada and direct household consumption of these is also substantial and important.

6.20 There are no reliable statistics pertaining to artificial sweetener production in Canada but evidently such output is minor. Therefore, consumption is essentially from imports. Artificial sweeteners, enter under the general chemical schedule of the Customs Tariff and in CITC groupings as part of broader generic imports. Accurate import data for artificial sweeteners separately thus cannot be assembled. Nonetheless, if it is assumed that the Canadian consumption pattern approximately parallels that in the United States, the Canadian consumption of artificial sweeteners in 1985 amounted to 17 pounds *per capita* (Appendix Table 10).(1) On that basis, Canadian consumption can be estimated, in sugar equivalent, at 195,000 tonnes in 1985. This figure indicates that the Canadian artificial sweetener market would be equivalent to about 13 per cent of the domestic market for natural sweeteners.

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(1) Artificial sweeteners have a sweetness content many times that of natural products. The figure of 17 pounds represents the consumption per capita of artificial sweeteners expressed in the equivalent weight of refined sugar.

Industrial Sweetener Use

6.21 Approximately two-thirds of the total volume of sugar consumed in Canada is used in industry, the other third being for household and institutional consumption. These proportions have not greatly changed since 1980, as indicated in Table 6.3:

TABLE 6.3: REFINED SUGAR,[(a)] - ESTIMATED INDUSTRIAL AND HOUSEHOLD USE, CANADA, 1980-1985

	1980	1981	1982	1983	1984	1985
			- '000 tonnes -			
Industrial Use	653.1	637.4	635.4	608.5	683.9	717.2[(b)]
Household and Institutional Consumption	290.9	287.0	285.1	317.9	341.1	357.8[(b)]
Total Consumption	944.1	924.4	920.5	926.4	1,025.0	1,075.0

(a) Cane and beet.
(b) Estimated from 1984 use ratio.

Source: Based on Statistics Canada, Cat. No. 32-222 Cane and Beet Sugar Processors.

6.22 While the industrial use of refined sugar has increased over the 1980-1985 period, this trend understates total industrial use of natural sweeteners because it excludes the growing use of corn sweeteners, particularly HFCS. Including the industrial use of artificial sweeteners, total industrial sweetener consumption has risen even more than indicated by Table 6.3. This growth in the total industrial consumption of sweeteners is primarily of HFCS and artificial sweeteners rather than cane or beet sugar.

6.23 The ten major industrial users of sugar and other natural sweeteners are listed in Table 6.4. Natural sweetener consumption by these industries averaged $410 million annually for the three years 1982-1984, comprising mostly refined sugar, amounting to $326 million, and other natural sweeteners, amounting to $84 million. Soft drink manufacturers, miscellaneous food processors, confectionery manufacturers, fruit and vegetable processors, and producers of dairy products are the largest single industrial users of natural sweeteners, in that order of importance, based on a ranking in terms of their total dollar purchases of natural sweeteners.

6.24 As shown on the following page, natural sweeteners (mostly refined sugar) are, as a cost component, of most importance to soft drink manufacturers, constituting 6.9 per cent of the total value of shipments. Confectionery manufacturers and biscuit makers rank next, with corresponding figures of 6.8 and 5.8 per cent, respectively. The selling prices for these first three industrial users will be those most sensitive to changes in the input price of sugar and other natural sweeteners; also affected will be their competitive position vis-à-vis imports. Wineries, bakeries, miscellaneous food processing, cereal producers and fruit/vegetable processing, also major sweetener users, are less vulnerable to sugar price fluctuations as natural sweeteners make up a small proportion, about 2 to 2.5 per cent, of the value of their shipments. Natural sweeteners are on the whole not important as a cost factor for the remaining two industries listed, dairy products and distilleries, although the former consumes substantial quantities.

TABLE 6.4: NATURAL SWEETENERS - COST AS PERCENTAGE OF SHIPMENTS, PRINCIPAL INDUSTRIAL USERS, CANADA, AVERAGE 1982-1984(a)

	Value of Shipments $ million	Cost of Refined Cane & Beet Sugar(b) $ million	% of Shipments %	Cost of Total Natural Sweeteners(c) $ million	% of Shipments %
Soft Drink Manufacturers	1,447.6	97.1	6.7	99.6	6.9
Confectionery Manufacturers	868.1	44.0	5.1	59.3	6.8
Biscuit Manufacturers	456.9	22.5	4.9	26.6	5.8
Wineries	225.7	5.7	2.5	5.7	2.5
Bakeries	1,299.2	25.9	2.0	29.7	2.3
Miscellaneous Food Processors	3,462.7	54.8	1.6	87.9	2.5
Flour & Breakfast Cereal Products Industry	1,204.1	17.1	1.4	21.1	1.8
Fruit and Vegetable Processing Industries	2,112.9	25.9	1.2	40.3	1.9
Dairy Products Industry	5,685.1	31.1	0.5	38.0	0.7
Distilleries	814.5	1.9	0.2	1.9	0.2

(a) Value of shipments is used as proxy estimate for total costs. All data are based on a three-year average.

(b) Includes granulated white sugar, liquid sugar (invert and syrup) and other sugar preparations used by manufacturers.

(c) Includes dextrose, corn sweeteners, honey and maple syrup in addition to refined sugar.

Sources: Statistics Canada, Census of Manufactures.

6.25 In 1984, the latest year for which Census of Manufactures data are available, the industrial use of natural sweeteners accounted for some 65 per cent of the total. The most important single user, the soft drink industry, accounts for an estimated 20 per cent of industrial use, or approximately 13 per cent of total natural sweetener consumption. The three main industrial users together, i.e., soft drink manufacturers, miscellaneous food processors and the confectionery industry, account for an estimated 44 per cent of industrial use or some 29 per cent of total consumption.

6.26 Table 6.5 provides, for the ten industry groupings set forth in Table 6.4, summary statistics respecting production and employment. These ten industries shipped goods valued at $18.8 billion in 1984 and in that year their combined employment totalled 127,000. Although the production of these industries increased by a value of $4.9 billion between 1980 and 1984, little or no real growth actually took place in this period when inflation is taken into account.

TABLE 6.5: NATURAL SWEETENERS - PRINCIPAL INDUSTRIAL USERS, PRODUCTION AND EMPLOYMENT, CANADA, 1980-1984

	1980	1981	1982	1983	1984
Production(a) ($ Million)	13,885.8	15,759.9	16,555.5	17,404.2	18,770.6
Employment (No.)	135,800	134,700	127,300	126,100	127,000

(a) Based on shipments in current dollars.

Source: Statistics Canada.

6.27 Summary data on imports and exports of goods high in sugar content are provided in Table 6.6. In 1985 such imports totalled $1.1 billion, and customs duties were $175 million. More detailed data respecting the imports of such goods are shown in Appendix Table 23. Exports of high sugar content goods are presented in Appendix Table 24.

TABLE 6.6: PRODUCTS CONTAINING SUGAR - VALUE OF IMPORTS AND EXPORTS, 1980-1985

	1980	1981	1982	1983	1984	1985
			- $ million -			
Imports	669.2	715.2	794.7	795.6	1,003.3	1,058.2
Exports	595.4	695.0	715.7	759.0	899.6	929.8

Source: Statistics Canada.

The Impact of Sugar Price Changes

6.28 In view of the importance of sugar as the primary natural sweetener, its extreme price volatility, and the proposal of a minimum price for raw sugar well above the current world price, the following paragraphs examine the impact of possible price changes in refined sugar vis-à-vis industrial users and consumers generally.

6.29 Industrial users will be affected differently by changes in sugar price depending on the relative importance of the input cost of refined sugar relative to the overall cost structure. Table 6.7 demonstrates the impact of various changes in the price of sugar upon average selling prices for goods produced by the principal sugar-using industries. In this table the percentages measure the approximate sensitivity of certain products to sugar price changes and indicate the per cent by which the selling price of a typical product would have to be increased to cover higher sugar costs, assuming other factors remain constant.

TABLE 6.7: SENSITIVITY TO INCREASES IN THE PRICE OF SUGAR, PRINCIPAL INDUSTRIAL USERS

Industry	Cost of Refined Sugar as % of Value of Shipments	Resulting Increase in Mfg. Selling Price From Increase in Sugar Price of: 50 Per Cent	100 Per Cent	150 Per Cent
Soft Drink Mfg.	6.7	3.4%	6.7%	10.1%
Confectionery Mfg.	5.1	2.6%	5.1%	7.7%
Biscuit Mfg.	4.9	2.5%	4.9%	7.4%
Wineries	2.5	1.3%	2.5%	3.8%
Bakeries	2.0	1.0%	2.0%	3.0%
Misc. Food Processing	1.6	0.8%	1.6%	2.4%
Flour & Breakfast Cereal Mfg.	1.4	0.7%	1.4%	2.1%
Fruit & Vegetable Processing	1.2	0.6%	1.2%	1.8%
Dairy Products Industry	0.5	0.3%	0.5%	0.8%
Distilleries	0.2	0.1%	0.2%	0.3%

Source: Tariff Board (see Table 6.4).

6.30 Given the current low price of sugar and past price peaks, it is conceivable that future price increases could be as much as 100 to 150 per cent. The above table therefore shows the likely impact assuming price increases of 50, of 100 and of 150 per cent, respectively. Even with a 150 per cent rise in the cost of sugar, some industry groups such as the dairy products industry and distilling would not be greatly affected. At the top end of the scale, however, the soft drink industry, the major single user, appears particularly sensitive to price changes in sugar. A 100 per cent increase in sugar price (or cost) would require, other things being equal, a price increase for soft drink products of some 7 per cent in order to pass on increased costs to consumers. The corresponding figure, given a rise in sugar price of 150 per cent, is 10 per cent. In this light, the soft drink, confectionery and biscuit industries are seen as vulnerable to increases in the cost of sugar.

Impact on Consumers

6.31 The effect of even a small increase in sugar price is quite significant for consumers. Based on the current consumption of refined cane and beet sugar of 1,072 thousand tonnes in 1986, an increase of 1 Cdn.¢/lb. on raw sugar, i.e., 2.38 ¢/kg after allowing for the refining loss, will add $25.5 million to costs at the level of the beet processing plant and sugar refinery.(1) An increase however in the price of raw cane sugar will occasion a rise in the price of corn sweeteners as well. On a volume of consumption of 361,200 tonnes in 1986 with a 25 per cent discount off the price of sugar, the additional cost to purchasers of corn sweeteners will be $6.5 million. Therefore for each cent increase per pound in raw sugar price, the overall cost could rise by as much as $32.0 million, valued at plant level. This calculation does not take into account any affect on the price of the minor sweeteners, honey and maple sugar and syrup.

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(1) The cost calculations presented here and subsequently are also set forth in Appendix Table 26.

6.32 Markups by the wholesalers and retailers of refined sugar, sugar products, corn sweeteners and products containing corn sweeteners will necessarily add to the above cost. The retail markup, which averages 25 per cent,(1) is the margin added to the price paid for refined sugar and sugar/corn sweetener products to cover retailing costs. A markup of 11 per cent(2) applies at various wholesale levels. Therefore, the cost of $25.5 million at the refinery level, resulting from a price rise of 1 Cdn.¢/lb. on raw sugar, could be further increased by $9.9 million as a result of normal markups. The total increased cost to Canadian consumers of refined sugar thus becomes $35.4 million. As for corn sweeteners, which are primarily sold for industrial use, both wholesale and retail markups occur in the distribution process which would increase their cost by $9.0 million.(3)

6.33 From the foregoing the Board estimates that an increase of one cent Canadian per pound of raw sugar would cost Canadian consumers an additional $44.4 million.

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(1) Brief of the Canadian Sugar Institute, Appendix 5.
(2) Key Business Ratios, Dunn & Bradstreet Canada.
(3) $6.5 million at the millers level plus a markup of $2.5.

SECTION III: SUMMARY OF THE SUBMISSIONS

A total of 105 submissions were received by the Board from interested parties prior to the public hearing of December 2-4, 1986. At the hearing the Chairman announced that the Board would accept additional submissions provided participants declared the subject matter of such submissions in the course of the hearing. The following brief summaries of the non-confidential information provided to the Board during its inquiry are primarily to give an indication of the positions taken by the various participants. The Board's analysis of the issues is based, however, on all the information before it, including the confidential information, rather than on these summaries. The full text of all written submissions and the transcript of the public hearing have been sent to the Minister together with this report.

The following lists the options set out in the background paper of November 1986.

1. Maintaining the existing policy.
2. Adopting a US-type policy.
3. Imposing a floor price on raw cane of 25¢/lb.
4. Compensating beet producers to terminate production.
5. Paying direct subsidies to beet producers.

CHAPTER 7: SUBMISSIONS OF PRODUCERS OF NATURAL SWEETENERS

Canadian Sugar Beet Producers' Association

7.1 The Canadian Sugar Beet Producers' Association represents nearly 1,100 sugar beet growers in Quebec, southern Manitoba and southern Alberta. The production of sugar beets in Canada has been declining in recent years. Production ceased in Ontario in 1968, the Picture Butte factory in Alberta closed in 1977, Alberta growers did not plant a crop in 1985 and Quebec growers ceased production in 1986. The growers see this contraction of their industry to have been a situation brought on by short-sighted government policies and unenlightened self-serving attitudes on the part of users and refineries. The beet growers argued that they are efficient because their costs were only 2 per cent or 3 per cent above the world average cost of production of sugar from beets but that instability in the world sugar market and the absence of a Canadian sweetener policy resulted in Canada being the only country in the world with a sugar growing industry which does not ensure an adequate return to its sugar beet farmers. The Association sought a long-term solution which would provide stability to the industry because it could no longer patiently accept the abuse of its members' rights and well-being through government acceptance of unfair and injurious trade practices. These practices had resulted in erratic and often low prices for sugar on the world market, which the British Columbia Sugar Refining Company Limited then forced the growers to accept. The sugar beet growers recognized that the company had been very forceful in suggesting that Canadian taxpayers make up this short-fall in their revenues through government deficiency payments, but contended that this was a totally unacceptable solution.

7.2 The Association noted that the Tariff Board had concluded in its Report on Sugar in 1971 that sugar beet farmers would best be compensated for losses due to low prices for raw sugar by payments under the *Agricultural Stabilization Act* (ASA). Indeed, the stabilization approach worked relatively well for a short period of time. However, because beets are not a named commodity under the ASA, the growers do not receive consideration and payments automatically. There are no guarantees in effect when the growers sign a contract and put a crop in the ground. The growers have a sceptical attitude towards governments which the Association said still owed growers tens of millions of dollars. The Association has found in the past that stabilization payments work well in principle but that in practice it is dangerous to count on stabilization because the formula for calculating benefits can create very serious problems in soft markets. The problem has been that under the ASA, stabilization payments are calculated on the basis of average income during the previous five years. Since the trough of the sugar cycle is often longer than five years, this method of calculating stabilization payments can result in very low payments at the end of a weak period.

7.3 The Association also noted that in its 1971 Report the Board had observed that Canada had been granted the right under the 1969 International Sugar Agreement to subsidize domestic production to the extent of 20 per cent of domestic sugar consumption.(1) Its concern was that at that time the Board had not addressed the issue of how Canada might achieve 20 per cent self-sufficiency. The Association suggested that the Board now attach the highest possible priority to determining how Canada could maximize the use of domestically grown sweetener feedstocks.

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(1) Reference 146, Tariff Board, Ottawa, 1971, p. 111:

"Canada will operate its internal policies so as not to provide incentives to sugar production beyond a level representing 20 per cent of domestic consumption."

7.4 The Association stated that it had been advised to grow other crops. In the case of Alberta, this was not a desirable alternative because the high cost of irrigation required the cultivation of beets, the only potentially high-return cash crop. The alternatives such as corn, barley and wheat were in over-supply and suffered from depressed prices. The Association concluded that if raw cane sugar were not imported into Canada at less than its cost of production, on average, throughout the world then farmers could earn a reasonable return. It was argued that a floor price for raw cane sugar would achieve this goal; otherwise the Association would be forced to explore the possibility of either anti-dumping or countervailing duty action under the Special Import Measures Act, and that the resulting increase in the price of raw sugar could be 40 per cent higher than the proposed floor price of approximately 22.4 ¢/lb. It was said that refiners would not hesitate to seek such relief from dumped or subsidized importations of refined sugar.

7.5 The sugar beet growers concluded that Canada needed a new national sweetener policy because the current situation is precarious as current government policies were not providing any certainty. The distress price of raw sugar in the free world market was the root of their problem. Prior to the December hearing the Association presented the following four-point proposal as the basis for a new national sweetener policy which would favour the use of domestically produced feedstocks.

1. A floor price set at 18 Cdn.¢/lb., (or 39.6 ¢/kg) f.o.b. country of origin, for raw sugar at 96° polarity. This reflects the cost of production of the most efficient producing countries. This floor price should be subject to annual review to reflect changing costs of production.

2. The Government of Canada establish a procurement agency to buy and sell all raw sugar feedstock, namely domestic beets and foreign raw cane sugar, to be processed in Canada.

3. Revenue realized from the purchase of low priced raw cane sugar from the world market could be set aside to help stabilize domestic sugar prices in years when world raw sugar prices are high.

4. The Agency be authorized to pass through world sugar prices to sugar refiners for their production of refined sugar for export.

7.6 The Association argued that procurement through the above mentioned Agency of both domestic beets and world raws could be justified under the provisions of Article XVII of the General Agreement on Tariffs and Trade (GATT).

7.7 In a further statement the Association proposed that the Government of Canada create a separate Crown corporation operating along the lines of and possibly in association with the Canadian Wheat Board, with the following powers:

> (i) To purchase all raw cane sugar and sugar beets to be used in producing refined sugar in Canada. These would generally be purchased at market price, with some possible exceptions in respect of certain developing countries, so there would be no floor price, despite repeated attempts by its opponents to claim that its position has not changed since December 1985 when it sought a surtax under Section 8 of the Customs Tariff Act.
>
> (ii) To resell raw cane sugar and sugar beets, to sugar refiners at prices based on a value equivalent to the cost of production of raw cane sugar by the most competitive cane producing countries. (The cost of raw sugar at 96° polarity, f.o.b. country of export.) We are calculating this f.o.b. country of export price as 18 Cdn.¢/lb. at 96° polarity. The average freight costs are about two cents per pound. The evidence which we submitted related to cost of production was the only evidence you had at the hearings. It was based on the work of a reputable expert in the field. While others said that these costs were not right, they did not put forward any evidence about what their actual costs are or may be. At this level of pricing, using our 1984 contract basis to calculate our returns, this is an acceptable basis of returns for sugar beet producers to plan and to operate.

(iii) To make raw sugar available at world price for export sales and for the export needs of refiners and industrial users.

(iv) To the extent that this fund were to generate a surplus, this surplus could be redistributed to refiners to stabilize their raw material costs in periods of higher world sugar prices. It is our view that no more than one-third of the surplus funds should be distributed for stabilization purposes in any one year. It is not our view that the government should provide any subsidization of sugar refiners in excess of surplus funds available to the marketing agency.

(v) Should the Government wish to ensure that producers of raw sugar are not subject to the exploitation of the so-called free market the agency could be empowered to enter into contracts with Caribbean and other least developed country sugar producers which would guarantee them access to the Canadian market, and at prices which reflect Canada's public commitment to assist in Caribbean development. These purchases could be related to the 160,000 to 170,000 tonnes of raw cane sugar which have traditionally been imported from the Republic of South Africa.

(vi) In cooperation with the Canadian Wheat Board, to seek "wheat for sugar" countertrade opportunities with sugar producing nations.

7.8 The Association noted at the outset that it did not consider that it could or should develop all of the administrative details which involved establishing such a body. It had developed a concept. It considered that the details of how it would operate on a day to day basis must be left to those who have designed and put into operation the Canadian Wheat Board and other agricultural marketing boards.

7.9 It proposed an agency which would operate in a manner similar to a marketing board. The agency would deal in both imported and home grown feedstocks for use in the production of refined sugar and would bring much needed stability to the pricing of sugar feedstocks to refiners in Canada and a more adequate return to growers.

7.10 Such a Crown agency would achieve a number of important public policy objectives, including:

(a) stabilization of wildly cyclical raw sugar prices;

(b) maintenance and expansion of efficient Canadian sweetener production;

(c) encouragement of crop diversification and regional economic development;

(d) promotion of Canadian wheat sales now subject to intense competition in a period of anticipated longer term surplus;

(e) enhancement of the Prime Minister's "Caribcan Initiative"; and

(f) elimination of the potential for offshore trading profits by sugar multinationals, which could occur in a floor price/surtax 'safeguard' situation.

7.11 As a final point the sugar beet producers suggested that sugar beets could be grown in New Brunswick and that the Saint John refinery could be converted to produce sugar from such sugar beet production.

Ontario Corn Producers' Association

7.12 The Ontario Corn Producers' Association represents 27,000 corn growers who, in 1985, sold 38 million bushels, or 14 per cent of their crop, to the corn wet-milling industry. The corn producers have a major interest in this Reference because they want a sweetener policy that would support Canadian sweetener feedstock producers and enable them to compete in their own domestic market at prices which reflect their competitors' true costs of production. The Association argued that Ontario corn growers are efficient and that in recent years their costs of production have been lower than in the United States. They are concerned, however, that a principal industrial end-user of Ontario grain corn, the high fructose corn syrup (HFCS) industry, is being jeopardized by unfair and injurious import competition in the form of low-priced raw cane sugar. The corn growers want a sweetener policy that will safeguard the market for corn and increase the use of home-grown sweetener feedstocks.

7.13 The Association strongly condemned the continuation of a sweetener policy for the benefit of consumers based on imports of unfairly priced raw cane sugar which forced the whole burden of adjustment on Canadian farmers who were producing sweetener feedstocks. The Ontario Corn Producers' Association, therefore, supported the Canadian Sugar Beet Producers' Association's proposal for a floor price for imported raw cane sugar.

7.14 The Association argued that such a sweetener policy would result in an increase in the use of HFCS which would require an additional 20-25 million bushels of corn (i.e., 500,000 to 600,000 tonnes). An independent study claimed that this increased demand for corn would result in an increase in domestic corn prices of about 10 per cent which would add approximately $100 million to Canadian farm income based on a total corn crop of about 7.5 million tonnes. If that occurred the cost of government stabilization payments would be reduced. Because the cost of corn is minor compared to the total cost of production of distilled beverages and breakfast cereals, which are two other major industrial markets for corn, it was argued that these industries would not be adversely affected. Moreover, higher corn prices would be beneficial to corn handlers. The corn growers further claimed that a 10 per cent increase in the price of corn would have only a minimal effect on livestock producers who would benefit from an ample supply of corn gluten feed, a by-product of HFCS production, at somewhat lower prices. It was admitted that lower prices for corn gluten would, in turn, lead to reduced prices for imports of soybeans. Lower soybeans prices would not hurt Canadian growers of that crop because many also grow corn and they would benefit from higher corn prices.

7.15 The Association stated that there are many independent studies to prove that Canadian corn growers are as efficient, in terms of cost of production, as U.S. growers. This was further substantiated by recent data regarding trade in corn between Canada and the United States which showed Canada to be a net exporter in some years despite the higher U.S. rate of duty.

7.16 The Ontario Corn Producers' Association fully supported the recommendation of the Canadian Sugar Beet Producers' Association that raw cane sugar, 96° polarity, not be available to refiners at less than 18 Cdn.¢/lb., f.o.b. country of export. This recommendation was based on the following grounds.

1. Foreign sugar enters Canada at prices well below its cost of production and such practices are considered unfair and injurious under SIMA and the GATT;

2. Canada is the only sugar producer without effective protection against injurious distress selling;

3. Stabilization payments are unsatisfactory and do nothing to protect CASCO Company, the sole Canadian producer of HFCS, against low sugar prices which could result in plant closures and a loss of market for Ontario corn;

4. A floor price for sugar would be simpler than the U.S. system and 18 ¢/lb. corresponds to the cost of production of the most efficient producing countries;

5. The floor price would not eliminate imports but would permit Canadian producers to increase their market share and incomes without government assistance;

6. The floor price should not, in itself, cause significant increases in prices of sugar and sugar products for consumers; and

7. Persistent and substantial reductions caused by predatory pricing practices are not tolerated in other Canadian industries and Canadian producers of sugar beets, corn and HFCS should not be expected to tolerate them either.

7.17 During the December public hearing, the Board questioned the corn producers concerning their assumptions regarding the possible future impact of HFCS on the price of corn. The Association undertook to study this matter further and subsequently submitted an econometric study which had been prepared for the Association by Deloitte, Haskins & Sells Associates. The following is the Executive Summary of this analysis.

> High Fructose Corn Syrup (HFCS) accounts for only six per cent of the domestic sweetener market. Expansion of HFCS to 36 per cent in Canada (which is comparable to the market share in the United States) would require an additional 500,000 tonnes of corn. This additional demand for corn would boost Ontario corn prices by 6 per cent - to possibly 10 per cent. The former represents a $7.25 per tonne price increase to Ontario growers which corresponds to an increase in cash receipts of $25 million and enhances the farm value of production by $40 million.
>
> Ontario corn prices are bolstered with enhanced HFCS utilization since this additional demand for corn in Ontario means that fewer tonnes of Ontario corn are priced on an export basis and more tonnes are priced on a Montreal feed basis and/or an import replacement basis in Ontario.

Ontario corn is exported, but all of the corn is not priced on an export price basis relative to Chicago. When corn which is surplus to domestic requirements has been exported, then Ontario corn is priced on a Montreal feed market basis. This pricing basis is around $0.20 per bushel above the export basis. Near the end of the crop year when Ontario does not have sufficient corn to satisfy demand at Montreal basis prices, then corn prices move up to an Ontario import replacement basis which can be over $0.85 per bushel above the export basis. The Montreal feed basis and Ontario replacement basis are both related to the cost of moving competing products into these markets.

The average annual Ontario corn price is around the Montreal basis price and increases in the utilization of corn in Ontario relative to the Ontario supply will lead to higher prices. Higher utilization of corn would not improve prices in only two market situations. One would be if Ontario corn was priced on an export basis for 365 days of the year. The other would be if corn were priced on an import replacement basis every day of the year. The Ontario corn market is between these two extremes and consequently supply and demand influences the price received by Ontario corn producers.

The study reviewed four market situations of HFCS production in Ontario. (See following Tables 7.1 and 7.2). In a situation where the current HFCS production no longer existed, price would fall by $7.80 per tonne (6 per cent) resulting in a drop in cash receipts of $27 million and a farm value decrease of $45 million.

Ontario corn producers are better off by $42 million on the value of their farm production if HFCS utilization increases to 36 per cent of the domestic sugar/sweetener market. This increase in utilization requires another 500,000 tonnes of corn which is equivalent to current annual corn export volumes. The associated 5.8 per cent price increase raises the annual average corn price by $7.25 per tonne.

However, if the Canadian HFCS industry lost their export sales then the utilization of corn for HFCS uses would fall by over 400,000 tonnes causing prices to drop by 5 per cent. This lowers cash receipts by $22 million and the value of farm production by $36 million.

In a situation where the HFCS producers lost the export market but acquired a 36 per cent share of the domestic sweetener market, there would be a small positive price impact for Ontario corn producers. This occurs because the volume of lost HFCS exports is estimated to be marginally smaller than the domestic volume associated with a 36 per cent domestic sweetener market share.

The countervailing duty on U.S. corn imports does not offset any of these gains for Ontario corn producers. Rather, under the countervailing duty situation, the gains associated with expansion of HFCS to 36 per cent of the domestic sweetener market are in addition to the estimated $7.25 per tonne annual price benefit that can be expected from the duty on U.S. corn imports.

TABLE 7.1: IMPACTS OF VARIOUS HFCS MARKET SITUATIONS ON THE ONTARIO CORN PRODUCER

Market Situation	Impacts On: Price %	Price $/t	Cash Receipts $M	Value of Production $M
1. Lose current HFCS production	-6.3	-7.80	-27	-45
2. Maintain exports and obtain 36% domestic market share	5.8	7.25	25	42
3. Lose exports with current domestic market share	-5.0	-6.25	-22	-36
4. Lose exports but obtain 36% of domestic market share	0.9	1.13	4	7

Source: Deloitte, Haskins & Sells Associates.

TABLE 7.2: UTILIZATION OF CORN IN THE HFCS MARKET UNDER VARIOUS MARKET SITUATIONS

Market Situation	Domestic HFCS	Domestic Corn	Export HFCS	Export Corn	Total HFCS	Total Corn
	- thousand tonnes -					
1. Current	65[a]	109.2[b]	250[c]	420	315	529.2
2. Maintain exports 36% domestic share	360[d]	604.8	250	420	610	1,024.8
3. Lose exports current domestic share	65	109.2	0	0	65	109.2
4. Lose exports 36% domestic share	360	604.8	0	0	360	604.8

(a) Sugar Institute - estimate made for 1984.
(b) Conversion of 1.68 tonnes of corn produces 1 tonne of HFCS.
(c) Based on USDA Sugar and Sweetener Situation and Outlook, Sept. 1986.
(d) Based on 1 million tonnes of Canadian utilization of sugars, syrups.

Source: Deloitte, Haskins & Sells Associates.

Canadian Honey Council

7.18 The Canadian Honey Council represents approximately 19,600 beekeepers who, in 1986, managed 702,375 colonies providing an estimated 33,072 metric tonnes of honey with a value of approximately $56 million. The Council estimates that the industry provided 2,690 jobs directly in 1986 plus additional tertiary employment by honey packing plants, bee equipment suppliers, etc.

7.19 Honey is the world's original natural sweetener and the Council provided data showing that Canada is one of the world's most efficient producers of honey. The yield per colony in Canada is more than double that of most other countries. As a result, in 1985 Canada exported 17,278 tonnes of honey, mainly to the United States, while imports were only 246 tonnes.

7.20 The Council's only concern in this reference had to do with proposals which would increase the price of sugar to Canadian beekeepers. The Council noted that, because of the growing problems of disease, mites, etc. and the africanization of southern U.S. colonies, more and more Canadian beekeepers are wintering existing hives rather than importing new colonies each spring. This means that large quantities of sugar must be fed in the autumn in addition to the normal spring feeding. The Council estimated the industry's 1986 sugar requirement at 33,521,000 pounds. Sugar is the beekeeper's major expenditure; the total cost of sugar fed to bees represents about 30 per cent of his total income. Therefore, the Council argued that any artificial increase in the price of sugar would result in bankruptcies and reduced honey exports.

7.21 Similar concerns were also expressed by the Saskatchewan Beekeepers' Association in a separate brief.

The Maple Syrup Industry

7.22 The Board solicited submissions from the Canadian maple syrup industry regarding this inquiry but none was received.

7.23 Statistics Canada data on the industry shows domestic maple syrup shipments in 1985 of 13,427 tonnes with a value of $44,173,000. The 1985 imports of maple syrup were 126 tonnes worth $463,000 while 7,771 tonnes, worth $31,709,000, were exported.

CASCO Company

7.24 CASCO Company is currently Canada's sole producer of high fructose corn sweetener (HFCS). CASCO supported fully the recommendations of the Canadian Sugar Beet Producers' Association and provided the following list of benefits to Canada if the recommendations of the Association were adopted:

1. Increase the potential market for Canadian grown sugar beets at prices which will make beet farming profitable.
2. Diversify the crop opportunities available to Canadian agricultural producers thus reducing dependency on wheat and other grains. Increased beet farming will permit a pattern of crop rotation considered beneficial in cereal farming.
3. Reduce and hopefully eliminate the need for stabilization payments to sugar beet farmers.
4. Increase the domestic demand for Canadian corn and thereby strengthen the Canadian corn market.

5. Encourage the further development and growth of high technology processes for manufacturing corn sweeteners and other products of the corn wet milling industry.

6. Profits from a corn sweetener base would encourage the development of a new bio-tech industry based on corn.

7. The above two areas of investment (high technology and bio-technology) would provide jobs for Canadians in the construction, operation and associated aspects of the developments.

8. Provide price stability to Canadian sweeteners. HFCS prices can rise only to the point where competing U.S. product enters the market.

9. Replace imported agricultural products with Canadian grown sweetener feedstocks to improve balance of payments.

10. Increase the domestic production of corn oil and high protein animal feed ingredients. Canada is now a net importer of these products.

11. End the risks to Canada's HFCS industry of uncertain U.S. agricultural and foreign trade policies.

7.25 CASCO argued that the current low prices for raw cane sugar in Canada were due to dumping and subsidization by foreign governments and that if Canadian sweetener producers were to pursue their rights under the Special Import Measures Act they would obtain price levels for raw sugar imports up to 40 per cent higher than those sought on behalf of the Canadian Sugar Beet Producers' Association.

7.26 CASCO's public submission contained little information regarding domestic production and marketing of HFCS. In its confidential submission CASCO presented data which established that domestic production is economically efficient in relation to the twelve other countries producing HFCS. CASCO had the second lowest corn costs and the third lowest average production costs during the 1979-84 period.

7.27 In its confidential submission, CASCO presented its views on the impact of its operations on the price of Ontario corn. In summary, this data suggests that CASCO's purchase of approximately 15 per cent of the Ontario corn crop is only significant in those years when these purchases made the difference between Ontario being a net importer or exporter of corn. In other words, even if CASCO were operating at 100 per cent capacity, if Ontario corn production were sufficiently high to result in exports, world market conditions, as reflected on the Chicago market, would establish the price of corn in Ontario. This confidential data supports the opinion expressed to the Board by other parties that, in the absence of countervailing duties or other regulation of imports, the price of corn in Ontario will be established by the price of the marginal or last bushel sold regardless of the total absolute demand for corn in Ontario.

7.28 In its statement at the public hearing, CASCO emphasized its export performance in the northeastern U.S. market, commented on the ownership and inefficiency of the two mothballed HFCS plants in the United States and drew attention to the fact that its FIRA agreement did not permi CPC International Inc., (1) to restrict CASCO's HFCS exports to th United States. The Board received a confidential copy of CASCO's FIR agreement and has confirmed the above statement but notes that CASCO' actual FIRA commitment to export HFCS is much less than current expor performance. Indeed, CASCO subsequently acknowledged that this marke could be lost during a period of U.S. protectionism.

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(1) Supra, paragraph no. 5.15.

7.29 CASCO argued that it is "mischievious and irresponsible" to consider the prices at which HFCS has been sold by CASCO to its two sole shareholders. CASCO also held that the only economic basis for a long-term, balanced sweetener policy must be the cost of production and that the current world sugar price was the product of politics and not of economics. The company was also of the view that the introduction of a floor price for raw sugar would not result in the loss of existing refineries because, for example, New Brunswick farmers could easily commence sugar beet production and continue to use the Saint John refinery. Indeed, the CASCO representative envisaged that adoption of its proposed sweetener policy would result in a situation in the future where 64 per cent of Canada's sweetener requirements would be met by domestic sugar beet production and 36 per cent by HFCS produced from domestically produced corn.

Canadian Sugar Institute

7.30 The Canadian sugar refining industry (Lantic Sugar Limited, British Columbia Sugar Refining Company Limited and Redpath Sugars) represented by the Canadian Sugar Institute (CSI), stated that there was no reason or justification for government intervention that would disrupt the natural operation of Canada's sweetener marketplace.

7.31 The CSI argued that the present system, under which the cane refiners import raw sugar purchased in the free world market, has worked extremely well for Canada. The cane refiners supply approximately 90 per cent of Canada's sugar needs, with the remainder coming from domestically grown sugar beets. According to the CSI, a direct result of this policy has been that Canadian consumers and food manufacturers have enjoyed sugar prices that, on average, are among the lowest in the western world.

7.32 The CSI stated that the generally low cost of sugar has also contributed to lower over-all food costs, since 70 per cent of the sugar refined in Canada goes to the country's food processors and other industrial users. This price advantage has provided the food processing industry with a competitive edge in important export markets as well as helped the Canadian sugar and food industries to fend off competition from food imports. These advantages have contributed to a stable industrial base which in turn has generated employment and other economic benefits.

7.33 According to the CSI there is only one trade-off of significance: the income problems experienced by approximately 1,100 Canadian sugar beet growers when world sugar prices drop below the costs of producing beets in Canada. The CSI noted that this problem has been the subject of extensive study and deliberation over recent years and that improvements in government agricultural stabilization payments had been devised to meet the situation. The CSI noted that this new system is currently in transition and that the solution had not been fully implemented at the time of the hearing. However, this in no way detracts from the correctness of the decision to subsidize the beet growers as necessary rather than totally disrupt the operation of the sweetener marketplace to the detriment of all Canadians. In fact, the CSI argued that this issue would not have been before the Tariff Board were it not for the efforts of the lone Canadian corn sweetener producer (CASCO) to turn the sugar beet situation to its advantage.

7.34 In the CSI's opinion, CASCO is seeking government intervention that would raise sugar prices in Canada to enable CASCO to sell its HFCS profitably on the domestic market rather than exporting it to its American parent for sale in the United States.

7.35 The CSI estimated that, under the proposed floor price, CASCO could take at least 20 per cent of the present refined sugar market in Canada. With higher Canadian sweetener prices, it was also likely that U.S. corn sweeteners would be exported to Canada, resulting in a loss of roughly one-third of the sugar refiners' present markets. According to the CSI, the results of such action would include:

- substantially higher sugar and food costs for Canadian consumers — approximating $570 million per year;
- the need for compensation to trading partners under the terms of GATT, totalling about $360 million eventually to be charged to Canadian taxpayers;
- plant closures and hundreds of lost jobs in the sugar and food industries, most likely in regions already suffering economic problems;
- higher government administration costs, leading to a heavier burden on Canadian taxpayers.

7.36 The CSI argued that neither the Prairie sugar beet producers nor the Ontario corn growers would gain any real benefits. In the opinion of the CSI, the position of the beet growers would eventually become worse because the inroads of HFCS would undoubtedly result in production curtailments of beet processing plants. For the corn growers, the transfer of CASCO's sales to the Canadian market from the U.S. market would have no appreciable effect on corn prices which are set on the international commodity exchanges. The CSI argued that there is no real indication that the demand for corn would increase since the CASCO plants are already operating near capacity and no guarantees had been given that HFCS production would expand.

7.37 The CSI asked that, in considering this issue, the Board take note of the inevitability that world sugar prices will rise in response to natural market forces. It noted, for example, the World Bank's forecast that prices in 1987 will be double the 1985 prices at $187 U.S./tonne, reach $450 U.S./tonne in 1990, and continue to rise in the years ahead. These price fluctuations are the facts of life in the sweetener industry and Canadian sugar refiners were willing to cope with them. What the

CSI could not accept is unwarranted interference with market forces to provide an artificial advantage to one participant while causing widespread hardship to virtually all others.

7.38 The CSI expressed the following opinions on the discussion of policy options contained in Section 9 of the background paper prepared by Tariff Board staff and made available on November 14, 1986.

7.39 The CSI thought that Option 1 (maintaining the existing policy) and Option 5 (direct subsidies to beet producers) were essentially the same in that a key element of the existing system was the payment of stabilization assistance to growers when world raw sugar prices fall below domestic beet production costs. The principal problem with this situation was the fact that the Manitoba government has not yet committed itself to the proposed tripartite income support program involving participation by the federal and provincial governments and the growers. As a result, planned improvements in the subsidy program have not come into effect and have not been publicly defined. The sugar refining industry has unequivocally supported, and continues to support, the concept of improving the existing system of stabilization payments to assist sugar beet growers through periods of extremely low world prices. According to the CSI, this was by far the most logical approach, given the widespread negative impacts associated with alternative measures. The CSI recognizes the social and economic value of the sugar beet industry to its communities in Alberta and Manitoba and would not advocate Option 4 (compensating beet growers to terminate production).

7.40 According to the CSI, Options 2 and 3 (a U.S.-style price support system or a 25 ¢/lb. floor price on raw sugar) are similar in that they offer only negative effects for the cane refining industry, for the food processing industries, for Canadian consumers and taxpayers and, indeed, for the sugar beet growers themselves who inexplicably had thrown their support behind the floor price proposal.

7.41 However, the CSI suggested that the negative impact on consumers resulting from a 25 ¢/lb. floor price is somewhat understated in the Board's background paper. Compared with current world raw sugar prices, the average increase resulting from the floor price would be about 30 ¢/kg, not 10 cents as indicated. Thus the "factory-door" increase to consumers on one billion kilograms would be $300 million — not the $100 million suggested in the Board's background paper. Measured at retail, for both sugar and sugar-content food products, the net result would be in the neighborhood of $570 million in additional consumer costs.

7.42 The CSI commented on the protectionist sugar price support systems as they exist around the world noting that even the United States Department of Agriculture, itself the author and administrator of one of the more complex support systems, admits that not only American consumers, but also the domestic sugar industry itself, have suffered as a result of the U.S. system. Reference is made to a 1985 report (USDA Agricultural Economic Report No. 543) in which it is pointed out that since 1981 eight sugar beet processing plants and three cane refineries have ceased operations in the United States despite protected prices that are about three times the world price. The closures resulted primarily from competition from HFCS which can profitably undersell sugar at the support price. The report concluded that: "In the longer term, the general interest of society will be served best through reduced levels of protectionism internationally so that all will realize the gains, derived through trade, of concentrating production in countries with a comparative advantage in sugar production."

7.43 The CSI summarized the current situation of Canadian natural sweetener industry in the following manner. The industry is:

- Supplying 90% of the domestic market with sugar purchased at low world prices and refined in Canada;
- Purchasing raw sugar from our trading partners and developing countries;

- Protecting domestic sugar beet growers with income deficiency payments;

- Protecting domestic corn producers under the Agricultural Stabilization Act;

- Exporting Canadian production of HFCS to the United States at inflated prices;

- Exporting refined sugar and sugar-containing products to the United States at inflated prices.

7.44 By maintaining the existing policy, Canada, in the opinion of the CSI, will:

- Provide sugar at lowest consumer prices, lower than in nearly all other developed countries;

- Provide sugar to industrial users at a commodity price advantage over other countries;

- Take advantage of world prices which are lower than average for 5 out of 7 years;

- Make it less costly and more efficient to protect the small domestic beet industry through deficiency payments, rather than price supports. (In other words, why pay higher prices on 90 per cent of sugar consumption to protect 10 per cent);

  - Because Canada is primarily a sugar importing country;

  - Because the small volume produced domestically in Canada is of no material benefit in periods of short world sugar supply;

  - Because of treaty obligations under GATT and bilateral agreements to purchase sugar without discrimination against foreign producers;

  - Because bureaucratic regulation of sweetener markets, prices and foods containing sweeteners is complex and nearly impossible "to get right" — or to dismantle in future;

  - Because sugar refining provides employment in 7 plants across the country;

- Because price support for sugar acts as an artificial incentive to produce substitute natural sweeteners which ultimately undermine the sugar producers it was intended to protect.

7.45 The CSI suggested that the objectives of policy considerations should be to:

- Maintain the advantage which low world sugar prices give Canada.
- Finalize details of the new Canadian sugar beet policy and program, ending uncertainty for the beet growers and processors and add a requirement for a five year notice of program.
- Protect jobs and investment to existing sugar refineries across Canada.
- Maintain access to the U.S. market for HFCS and sugar-containing food products.

7.46 According to the CSI the reasons why these objectives have not already been achieved are:

- Because Manitoba has not yet accepted the tripartite funding proposal by the Federal Government for deficiency payments, causing dissatisfaction among sugar beet growers; and
- Because the shareholders of CASCO (Labatt and CPC) saw an enormous profit-taking opportunity if they could persuade the Government to impose high domestic prices on sugar, permitting their substitute sweeteners (HFCS) to undersell sugar in the domestic market.

7.47 The CSI recommended that the Canadian government should:

- Sign the tripartite agreement with Alberta to provide deficiency payments to sugar beet growers having a minimum notice for cancellation amounting to 5 years; leave the offer open to Manitoba and the sugar beet growers in that province; recognize that deficiency payments are likely to decrease from $20 million in 1986 to $15 million in 1987, and $10 million in 1988, based on the World Bank forecast for world sugar prices.

- Observe U.S. trade policies closely and advise the United States in advance of reciprocal measures, e.g., embargo on refined sugar imports — if any border measures are taken against HFCS exports from Canada.

7.48 During the course of the public hearing the question arose as to what 18 Cdn.¢/lb., f.o.b. Caribbean port, meant in terms of a Canadian landed and duty paid cost to the refineries. The CSI subsequently provided this data and the following table shows the detailed calculation of current costs which would have to be added to the original 18 cents to arrive at a total cost to refiners.

TABLE 7.3: LANDED COST OF RAW SUGAR, 18 CENTS CDN/LB F.O.B. CARIBBEAN PORT

	MFN		BP
		- $/tonne -	
CIF Montreal(1)	$17.51		$17.51
Plus:			
BP duty	-		16.53
MFN duty	25.35		-
Insurance	0.50		0.50
Weighing & sampling	0.14		0.14
Discharge	3.00		3.00
Total CIF	46.50		37.68
		- ¢/lb. -	
Equivalent to:	2.13		1.71
Add: Freight, St. Lawrence Seaway to Toronto	0.30		0.30
Total cost of shipping	2.43		2.01
Plus: Sugar cost, f.o.b. Caribbean port of export	18.00		18.00
Total landed cost: Toronto	20.43		20.01

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(1) 70 per cent of freight charges to transport raw cane sugar from a Caribbean port to London U.K. quoted at $18.00 U.S./tonne on December 18, 1986. The exchange rate was: $1.00 U.S.=$1.39 Cdn.

Source: Canadian Sugar Institute, Toronto.

CHAPTER 8: SUBMISSIONS OF PRINCIPAL USERS OF NATURAL SWEETENERS

Canadian Industrial Sugar Users

8.1 The Canadian Industrial Sugar Users (CISU) is an association sponsored by 29 major companies whose divisions and subsidiaries represent over 60 industrial sweetener users. Industrial users purchase in excess of 70 per cent of the total sweeteners used in Canada. As indicated in the Board's Background Paper, Canada is a net importer of sugar sweeteners. As a result of Canada's free market policy, Canadian industrial sugar users and consumers have had the benefit of the lowest sugar prices in the industrialized world.

8.2 The CISU noted the request of beet and corn growers for a floor price of 18 Cdn.¢/lb. raw sugar basis, f.o.b. point of origin. The CISU calculated, based on the current average world market price for raw sugar of 6.61 U.S.¢/lb., or 8.81 Cdn.¢/lb., that this would increase the cost of a pound of sugar by more than 9 cents Canadian. Based on Canada's current level of raw sugar imports, this would add more than $200 million annually to the costs of Canada's raw sugar imports.

8.3 The CISU disagreed with the argument that, while stabilization payments to beet growers might maintain employment in the beet industry, the alternative, a higher sugar price policy, would increase employment in the beet industry. In its examination of the available data and statistics, it could not find evidence to support a correlation, direct or indirect, between increased sugar prices and increased beet production. The CISU noted that the result of the price support regime in the United States had been to encourage expansion of HFCS at the expense of sugar both beet and cane. The CISU noted that in the United States, where beet farmers had been protected by artificially high sugar prices for many years, sugar beet production had declined from 4 million tons (3.6 metric tonnes) in 1975 to 2.6 (2.4 metric tonnes) million tons in 1983, a decline of over 30 per cent. This decline in production had led to the closure of a significant number of processing plants in the United States, a decline in processing plant employment and a drop in the number of beet growers.

8.4 The CISU also disagreed with the argument that a high sugar price policy would improve markets and prices for corn and increase employment in that sector. They argued that there was no causal relationship between HFCS production and the price of corn. There was no evidence to support the allegation that increased HFCS production would lead to higher corn prices. Indeed, the United States' fructose output had reached its existing installed capacity in 1983 at which time corn on the Chicago Board of Trade Exchange was selling at $3.60 U.S./bushel. By December 1986 the same corn in the same market was $1.75 U.S./bushel. After three years of high demand for corn by the fructose industry in the United States the price of corn had fallen by 50 per cent. The price of corn in Canada is established by trading on international commodity exchanges such as the Chicago Board of Trade. The CISU agreed with the corn producers that the local price would vary with local conditions but it felt that the major part of the price was set in Chicago. It agreed with the corn producers' statement that "the price is set by the hardest bushel to sell" and the CISU suggested that this price had little to do with the price of sugar.

8.5 The CISU stated that employment in the food and beverage sector had averaged approximately 200,000 persons for the past seven years. There was, however, an alarming trend that it wished to draw to the Board' attention. Its submission showed that import penetration of th domestic markets for various manufactured food products had bee growing at an alarming pace during the past five years. It argued tha this was a direct result of the high input costs faced by the Canadia food processing industry vis-à-vis foreign manufacturers. In th CISU's opinion the imposition of a sugar floor price and the resultin cost to Canadian consumers of a minimum of $200 million annually woul cause domestic sales to decrease and import penetration to accelerate

The domestic Canadian market would erode while the present expansion of Canadian industrial users in the international marketplace was unlikely to continue with the minimum sugar floor price option. The impact upon employment in the food and beverage sector, which currently surpassed the sugar beet, corn growers and processors many times over, would be severe, substantial and irrevocable.

8.6 Sugar, while maintaining a significant role, will not play as dominant a role in future as it has in the past because of the introduction of artificial or non-caloric sweeteners. Artificial sweeteners, low caloric sweeteners and other non-sugar sweeteners have and will increasingly displace the traditional market for cane and beet sugar. The domestic and the international sweetener market will continue to change in the coming years as alternative sweeteners capture a larger share of the market. In the CISU's opinion, a minimum floor price for sugar will not help Canada meet these changes. In its view, a high sugar price policy will not lead to any significant increase in employment in the beet industry. There are more efficient alternatives to address the problems of beet growers.

8.7 In conclusion, the CISU asked the Board to reject the idea of a regulated sugar price in favour of more efficient and substantially less expensive alternatives.

8.8 In summary, it was the position of the CISU that:

1. A high sugar price policy would not lead to any significant increase in employment in the beet industry and that there were more efficient alternatives to address the beet industry issue.

2. There was no evidence to suggest that a high price sugar policy resulting in increased HFCS output would lead to increased employment in the corn industry. Corn growers had identified U.S. policy,

not HFCS production, as their issue and should have approached Government through other and more appropriate channels to address this.

3. There were over 200,000 Canadians employed in the food and beverage manufacturing industry. These jobs are threatened by growing import penetration. A significant increase in the domestic price of sugar would increase this threat and would lead to substantial and irrevocable job losses in the food and beverage manufacturing sector.

Canadian Soft Drink Association

8.9 The Canadian Soft Drink Association (CSDA) spoke on behalf of 155 bottlers and franchise houses accounting for approximately 95 per cent of all carbonated beverage production in Canada. The industry is composed mainly of Canadian owned independent businesses employing an average of 65 persons per establishment. The industry employed more than 12,000 people in over 180 plants in 1986 and paid wages and salaries in excess of $300 million.

8.10 The industry's starting materials are water, soft drink concentrates and sweeteners. Soft drink concentrates, which generally contain no sweeteners, are purchased from franchisers. Each bottler is free to buy his natural sweetener requirements on the open market in Canada or elsewhere at the best possible price.

8.11 The CSDA members as a group are the largest industrial user of natural sweeteners, purchasing approximately $100 million of natural sweeteners annually. The industry is also the most sensitive to changes in sugar policy as natural sweeteners account for 6.9 per cent of the total value of shipments. This is a higher percentage than for any other industrial sugar user.

8.12 The industry purchases approximately 200,000 metric tonnes of sugar annually, or 20 per cent of total Canadian sugar consumption. However, the industry's sugar use is destined to decline with the growing importance of diet soft drinks, which employ non-caloric sweeteners such as aspartame. Diet drinks have increased from 6 per cent of total production in 1980 to 25 per cent in 1985. If the government were to intervene in the market to increase the price of natural sweeteners this trend would accelerate and the use of natural sweeteners would decline more rapidly.

8.13 The CSDA argued that the prospects for a decline in natural sweetener use would be reinforced by two new factors: (1) the expiry of the Canadian patent on aspartame in 1987, and (2) the expected commercialisation of new non-caloric products with tremendous sweetening power. When aspartame comes down in price to the economic equivalent of sugar and when the superior non-caloric sweeteners become available at an equivalent or lower price, the displacement of regular soft drinks by diet soft drinks will accelerate.

8.14 If the price of sugar were to increase by 5 ¢/lb. or 11.1 ¢/kg the additional cost to the industry would be approximately $22 million per year. Stated another way, the impact of a 5 ¢/lb. increase in the price of sugar to the soft drink industry alone would amount to $20,000 per year for every sugar beet farmer in Canada. The Association felt that there must be a better way to solve the sugar beet farmers' problem.

8.15 The CSDA was strongly opposed to any new government intervention which would have this effect. Recently the industry had the unpleasant experience of the application of the federal sales tax to soft drinks which greatly increased the cost of its product to the Canadian consumer.

8.16 The Association made the following comments regarding the five major policy options set out in the background paper.

1. Maintaining Existing Policy:

8.17 The existing policy works and we (CSDA) have no selfish reason fo
suggesting that it be changed. However, it was felt that the sugar bee
growers have been treated badly by the government. Sugar beets ar
designated under the Agricultural Stabilization Act (ASA) from time t
time, but on an unreliable basis and the payments they are entitled t
when sugar beets are designated have been delayed, apparently by re
tape and indecision in Ottawa. To that extent, the sugar beet grower
seem to have legitimate complaints. We (CSDA) have always felt that th
government should: (1) give the sugar beet farmers the fullest suppo
available under the ASA, (2) name sugar beets under the Act so that th
growers will know where they stand, and (3) make the deficiency paymen
promptly so that the growers can concentrate on sugar beets instead
their debts.

2. & 3. Sugar Floor Prices:

8.18 The CSDA is unanimously and adamantly opposed to options 2 and 3 as
is to the floor price proposal initiated by CASCO. CASCO is controll
by a U.S. corporation with sales of $4 billion which has made a lot
money under the sugar floor price system in the U.S. and obviously wa
to do the same in Canada. That corporation and others buy corn ch
and sell HFCS to the soft drink industry in the U.S. simply beca
protectionists have made sugar so expensive that HFCS is a ch
alternative to sugar there. The result has been the virtual eliminat
of beet and cane sugar sales to the soft drink industry in the U.S.

8.19 The CSDA argued that the same thing could happen in Canada if the government intervened in the sugar market. Bottlers equipped to use HFCS would probably switch to HFCS, some of it imported from the United States, some at the expense of Canadian beet sugar. At the 18 ¢/lb. level proposed by CASCO, the CSDA's members' costs would increase by approximately $59 million in 1985.

8.20 The Canadian soft drink industry now uses 38 per cent of the beet sugar production of Alberta and 24 per cent of the beet sugar production of Manitoba. A sugar floor price which made HFCS more attractive would damage the soft drink industry and the sugar beet industry as well. The sugar beet industry would lose sales immediately to the extent that large bottlers converted to HFCS.

8.21 At the same time the small bottlers in many small centres would be faced with large capital costs which they could ill afford in converting to HFCS. This would precipitate a consolidation of the bottling industry to the direct peril of bottlers in small centres throughout Western Canada and in other regions.

8.22 The CSDA noted that in central Canada the two major bottlers already using HFCS would be faced with increased costs. Additional bottlers would presumably begin to buy from CASCO if it had product to spare at an affordable price. However, the use of Canadian corn would not increase significantly because the CSDA understood that CASCO is already operating close to capacity.

8.23 In the CSDA's opinion, if the corn growers were successful in their countervail case, CASCO would be faced with a strong new incentive to continue exporting HFCS to the United States. If there were any increase in the price of Ontario corn CASCO would also have an incentive to switch from Canadian corn to U.S. corn for conversion to HFCS and re-export to the United States. Drawback could be obtained for countervail duties as well as customs duties. The CSDA questioned why CASCO would purchase higher-priced Canadian corn for HFCS under these circumstances.

4. Compensation to Beet Growers (the Buy-Out Option):

8.24 The CSDA stated that it could not advocate the shutdown of any crop or industry in Canada if it is viable. However, it noted that the one-time total cost of buying out the sugar beet farmers, at $25.2 million, was considerably smaller than the annual cost to the Canadian soft drink industry of the proposal advanced by the sugar beet growers for a floor price of 18 ¢/lb. for raw sugar.

5. Direct Subsidies to Beet Producers:

8.25 The CSDA supported the requests of the beet farmers for financial support on the same basis as alternative crops under the Agricultural Stabilization Act. The sugar beet industry has operated on a small scale for a long time as a regional industry serving nearly all the sugar needs of its geographically limited market. It has importance in the small areas of Canada where beet production is feasible and processing plants were established. The CSDA saw no reason why the beet industry should be discriminated against or treated on an ad hoc basis. If the industry is viable then sugar beets should be supported as a named commodity under the ASA with any adjustments which may be deemed appropriate.

8.26 The CSDA's view is that it would be foolish for the government to create a sugar bureaucracy imposing hundreds of millions of dollars in extra costs annually on Canadian industry and consumers. There are far simpler solutions to the few legitimate problems of the natural sweetener producers.

8.27 The CSDA recommends that the existing Canadian sugar policy be maintained but that sugar beet growers be supported under the Agricultural Stabilization Act with such adjustments as may be deemed appropriate to meet their specific needs.

Confectionery Manufacturers Association of Canada

8.28 The Confectionery Manufacturers Association of Canada (CMAC) informed the Board that its members have a vital interest in Canada's sweetener policy because sweeteners account for more than 60 per cent by weight of all the raw material used by the industry. In 1985 the 26 member companies of CMAC, accounting for 90 per cent of all confectionery produced in Canada, used approximately 80,000 tonnes of sugar, 39,000 tonnes of other natural sweeteners (mainly corn sweeteners) and 2,000 tonnes of artificial sweeteners with a combined value in excess of $178 million for the natural sweeteners. Consequently, confectionery manufacturers are more vulnerable than any other Canadian industry, except the soft drink manufacturers, to an increase in natural sweetener prices.

8.29 The CMAC submission presented an analysis of the impact on the industry of a five cent per pound increase in the price of sugar in Canada. The Association argued that an increase of only five cents per pound in the price of sugar would add $8.8 million to the direct costs of its member companies. The same five cents per pound, if applied to the price of all natural sweeteners, including corn sweeteners, would increase their direct costs by $13 million per year. Any such increase in their direct costs would be unavoidably magnified as some of their overhead costs would be driven up, resulting in increased selling prices to the retailer. Furthermore, the effect on the consumer would be further magnified because the recently imposed federal sales tax would then be applied to its sale price to retailers, to which the retailing industry in turn would apply its standard mark-ups. Higher retail prices would inevitably depress the consumption of Canadian confectionery. As a general rule of the confectionery industry, an increase of one per cent in the real price of confectionery leads to a reduction of one per cent in confectionery sales. The CMAC was able to present fresh evidence to support this rule of thumb on the basis of research performed to measure the consumption impact of the sales tax of 12 per cent imposed in July, 1985. Canadian factory sales of confectionery fell by 12.7 per cent from 147,502 kg in the 12-months preceding the imposition of the sales tax to 128,724 kg in the 12-month period following.

8.30 The CMAC predicted with certainty that any increase in sweetener prices in Canada would inevitably have the following consequences:

1. increased consumer prices
2. reduced Canadian consumption
3. reduced Canadian confectionery production
4. reduced use of sweeteners by their industry
5. increased incentive to use artificial sweeteners where technical considerations permit
6. loss of market share to confectionery imports
7. diminished potential for confectionery exports
8. disincentive to invest in import replacement
9. new incentive to move production offshore
10. reduced employment.

The Canadian confectionery industry has developed in an environment shaped by sugar policy, dairy policy, sales tax policy and tariff policy. In recent years it has been burdened increasingly by Canadian tariff concessions, by the imposition of the federal sales tax and by U.S. action to withdraw milk price supports which action caused a widening disadvantage in their dairy product costs vis-à-vis the United States. It is now being threatened by higher sweetener costs, the one area where it enjoys parity with imports.

8.31 The CMAC argued that one company, CASCO, had moved opportunistically, in making the 18 ¢/lb. floor price proposal. The clear thrust of the CASCO proposal is to create prosperity for itself by blatant protectionism at the expense of almost everyone else. The CMAC deplored the fact that the sugar beet growers, who had a real but easily solved problem, had been enlisted to support the proposal. It surprised the CMAC that the Ontario corn growers had also been enlisted. Grain corn production of Ontario had been growing substantially and imports were not a significant factor. The corn growers had taken their complaint of price suppression to the Canadian Import Tribunal. The CMAC concluded that the corn growers had been persuaded that further volume gains and price increases would accrue to them through the artificial creation of a new HFCS market at the expense of consumers, user industries and the refiners themselves. The CISU, had shown however, that there was no correlation between corn prices and HFCS production. The price of corn had fallen by 50 per cent in the United States in a period of HFCS growth under the protectionist U.S. sugar policy. It was also noted that the creation of the HFCS market in the United States had entailed the displacement of major volumes of beet sugar.

8.32 The CMAC argued that the real interests of CASCO are diametrically opposed to the real interests of their bedfellows. That company, controlled by a U.S. corporation with sales of $4 billion (1985), is seeking to replicate in Canada the favourable environment which had been created for HFCS in the United States.

8.33 The CMAC estimated that the CASCO proposal, if it had been in place in 1985, would have added $38.9 million to the direct cost of confectionery made in Canada.

8.34 The CMAC could not see any justification for such a change in policy. It noted that there are approximately 1,100 farmers in Canada involved in the production of sugar beets. The processing of these sugar beets employs another 283 people. On the other hand, CASCO employs only 150 people in HFCS production.

8.35 In the opinion of CMAC it made no sense to put at risk the confectionery industry which employs 7,718 people, along with the other user industries which employ 200,000 people.

8.36 It makes no sense to impose extra costs on its industry which in 1985 would have amounted to more than $25,000 for each of the beet farmers, sugar beet processors and HFCS workers in Canada.

8.37 Against that background, the CMAC vehemently opposed the CASCO proposal and any variant of that proposal which would increase the cost of natural sweeteners to its industry.

8.38 The CMAC made the following comments regarding the policy options outlined in the Board's Background Paper.

8.39 The first option, to maintain the existing policy, had not treated sugar beet growers as equitably as growers of other crops. It appeared that support had been given on an ad hoc basis, that the sugar beet growers had suffered uncertainty as they waited for these ad hoc decisions and that their support payments had been late. The sugar beet growers' complaints earned their sympathy and the CMAC reaffirmed their continued support for the beet growers. Unless the government was prepared to declare that the production of sugar beets in Canada is not viable, it srongly urged that the growers be given the fullest measure of support provided for under the Agricultural Stabilization Act. The naming of sugar beets under the Act would eliminate the year to year uncertainty which the growers have suffered in the past and proper administration would presumably remove their complaints of late payment. The CMAC recognized that some adjustments might be needed to increase the maximum benefits allowable under the Act in order to meet the specific needs of the sugar beet growers. It had no objection to such adjustments as the Board or the government might deem appropriate.

8.40 The CMAC did not advocate the liquidation of the sugar beet industry. It noted, however, that the one time total cost of buying out the farmers, estimated at a maximum of $25.2 million in 1985, would be less money than the cost of the CASCO proposal to the confectionery industry alone.

8.41 In summary, the confectionery industry has been subjected to a number of policies which are making it increasingly difficult to compete. It has a worsening trade balance, which means that increasing amounts of natural sweetener are flowing into Canada in the form of manufactured confectionery. The last thing needed is an increase in the cost of sweeteners.

8.42 At the December public hearing the CMAC's presentation was further substantiated by the testimony of the president of Ganong Bros. Ltd., a CMAC member. Mr. Ganong emphasized the importance of the sugar industry to the Maritimes' economy in general and presented the important fact that the presence of the Lantic refinery in Saint John meant that the Maritimes had a local f.o.b. pricing point for quoting sugar prices.

Effem Foods Limited

8.43 Effem Foods Limited presented a confidential submission containing financial data regarding its current capital expansion in Canada. At the public hearing the company's president described the new plant being built at Newmarket, Ontario, and explained that its planned completion and full utilization depended on the availability in Canada of sugar at world prices. The significance of this new facility to the region was also supported by a letter from the Mayor of Newmarket.

8.44 Following the public hearing Effem's counsel submitted a further paper regarding the GATT issues raised by other participants which concluded that the establishment of a sugar procurement agency "would violate

Canada's specific commitment under GATT not to exceed its bound tariff rates on sugar" and that Canada would therefore "be required to offer compensation to affected countries".

Dr. Ronald D. Knutson

8.45 Dr. Knutson, a Texas A & M University economist, appeared at the request of Effem Foods and reviewed U.S. sugar policy since 1970 and the consequent falling demand for sugar, despite a rising demand for natural sweeteners. He noted that during this period the corn sweetener manufacturers were the big gainers. The big losers were U.S. consumers and sugar refiners, and foreign suppliers. While domestic cane and beet producers gained in the short-run, they lost in the long-run.

8.46 At the current world price for sugar the U.S. sugar program is costing U.S. consumers over U.S. $2.7 billion annually. At the same time the present U.S. sugar policy is one of the major causes of the low world prices because, as the U.S. domestic sugar demand fell, the market correction was made by reducing the U.S. import quota rather than the domestic output of sugar. Dr. Knutson noted that the world surplus of sugar has been further aggravated by the EEC's sugar export subsidies. He was of the view that, if the current policy is pursued, by 1989 the U.S. import quota would fall to zero after which domestic production controls might have to be placed on HFCS production. This situation would be exacerbated by the introduction of new non-caloric sweeteners.

8.47 Dr. Knutson concluded that the rational option for the U.S. sugar producers would be the current Canadian policy. This would also be the most rational policy for the U.S. taxpayers and government because, where necessary, direct subsidies are always cheaper than indirect price support programs.

8.48 Dr. Knutson's analysis was subsequently confirmed in a statement opposing the U.S. sugar price support program, issued by the Economists' Committee on Public Policy and signed by 124 top U.S. economists, including four Nobel Laureates and eight past presidents of the American Economics Association.(1)

Canadian Food Processors Association

8.49 The Canadian Food Processors Association (CFPA) represents over 130 fruit, vegetable and specialty food processing firms. Members of the CFPA form the third largest component of Canada's $40 billion food and beverage processing industry and have sales of almost $5 billion per year.

8.50 The Association noted that the Canadian food processing industry lacks certain advantages available to other major producers in terms of climate, geography and economies of scale. It is further impeded by domestic fiscal policies, social policies, regulated energy and transportation policies, agricultural marketing and stabilization policies and various tariff and non-tariff barriers. The only competitive edge that it has had in recent years has been the availability of sugar at world prices. The importance of this was shown in member responses to a CFPA questionnaire which showed that the sugar content of processed foods ranged as high as 60 per cent. The questionnaire was completed by 78 per cent of the members canvassed and showed that sugar was used at 110 of the 150 processing plants across Canada and that these plants provided 27,000 person years of employment. The survey also showed that HFCS could be substituted for sugar only in certain preparations. The CFPA provided data showing that the proposed floor price for sugar would increase the selling prices of the industry's products by from 3 to 50 per cent. The Association estimated that there would be a major loss of market share for drink crystals, frozen juice concentrates, jams, jellies, marmalades & preserves, sundae toppings & fondants, table syrups, and frozen and other pies, cakes and turnovers. A moderate loss of market share would occur for tomato-based ketchup, spaghetti & pizza sauces, salad dressings, fruit pie fillings, maraschino cherries and processed cucumber products, and a marginal loss for puddings. In addition, a floor price would severely curtail the export markets for frozen and other cakes, pies and turnovers, and for frozen fruit.

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(1) Post hearing submission presented on behalf of the Canadian Sugar Institute and its members, the Canadian producers of refined sugar, dated January 23, 1987.

8.51 In conclusion, the CFPA argued that the present Canadian policy of acquiring sugar at world prices has been of net benefit to Canadians and should be maintained.

Association of Canadian Biscuit Manufacturers

8.52 The Association of Canadian Biscuit Manufacturers is a national trade association representing eight biscuit manufacturing companies. Its membership accounts for more than 80 per cent of all the biscuit production in Canada. In addition to the eight active members, there are forty affiliate members who supply products and services to this industry.

8.53 The Canadian biscuit industry, in 1986, employed 6,445 Canadians and consumed approximately 88 million pounds of refined sugar, 10 million pounds of corn sweeteners and 4 million pounds of other natural sweeteners and sweetener substitutes, including aspartame. At least two of the manufacturing facilities are regular users of Canadian beet sugar, consuming approximately 9 million pounds of refined beet sugar per year, or approximately 9 per cent of the industry's total sweetener consumption. Sweeteners account for 25 - 40 per cent of the value of all the industry's raw materials and between 7 and 11 per cent of their total cost of production.

8.54 It was stated that the Canadian Biscuit Industry is highly competitive and produces an extremely price sensitive product. The total Canadian market has been declining in recent years. Sales of domestically produced packaged sweet biscuits in Canada declined from 197 million pounds in 1980 to 182 million pounds in 1985. Recently, the decline in Canadian production has been arrested but there are no indications of future growth in domestic sales. As a result, the number of production facilities decreased from 33 in 1980 to 24 in 1985. Continuation of this trend would mean, within the next few years, the loss of at least one additional biscuit plant and several hundred direct jobs.

8.55 The Association noted the increase in import competition. Between 1980 and 1985 the average annual rate of growth in biscuit imports averaged 17.7 per cent. Canada's offshore and U.S. competitors enjoy larger markets, economies of scale, and hence greater opportunities to automate their production. They also enjoy the benefit of world sugar prices in their exports to Canada. The industry is not afraid of this competition from imported products provided their input costs, including that of sweeteners, are similar and were not artificially increased above current levels.

8.56 The only important factor in 1986, when the Canadian biscuit industry enjoyed parity with foreign competitors, was the cost of sugar to which it had access at world free market prices. This helped in its survival against import competition and became an advantage in the large and growing export business. It was stated that the export market represents the only major growth opportunity for the industry. In 1985 exports totalled 49,294,153 pounds, most of which was exported to the United States. The loss of this export market for Canadian biscuit products would mean the immediate closure of one major biscuit bakery and the closure of a second one within two years. These closures would, it was claimed, result in the loss of some 800 direct jobs and up to 2,400 indirect jobs.

8.57 The Association argued that the free world market sugar price allows Canadian biscuit manufacturers to purchase refined sugar at around 20 ¢/lb. An increase in the price of raw sugar in Canada to 18 ¢/lb. f.o.b. point of shipment would equate to refined sugar prices of approximately 35.5 ¢/lb. This 15.5 ¢/lb. increase would add an extra cost burden of $13,640,000, which the industry could not absorb, and $27 million to the cost for Canadian consumers.

8.58 The Association stated that, because of price sensitivity of its production and of competition from other food products in the snack category, marketing experts in the industry felt that such an increase in consumer cost would accelerate the declining trend in the industry and by 1990 would mean the loss of tonnage equal to the output of one major bakery and 300 to 400 jobs. The Association felt that it would be highly counterproductive to consider raising the price of domestic sugar. It recognizes the plight of Canadian farmers but feels that the only efficient way of getting aid directly into the hands of those who need it was through the existing agricultural support programs.

8.59 In conclusion the Association argued that the industry's competitive situation is already over-burdened by the costs imposed by several agricultural marketing boards, including wheat, and it urged that its long standing access to sugar at the world price be maintained. The Association supported the position of the Canadian Industrial Sugar Users.

Bakery Council of Canada

8.60 The Bakery Council of Canada represents 950 firms which employ 25,000 persons in 1,300 bakeries across Canada. The current annual value of shipments is over $1.3 billion.

8.61 The Council's main point was that at the present time the U.S. baking industry enjoyed flour costs significantly lower than the industry in Canada and that the lower sugar price is the one advantage which the Canadian bakers have vis-à-vis U.S. import competition. The Council noted that higher imports of U.S. bakery products would also hurt Canadian wheat and sugar beet farmers.

8.62 In conclusion, the Council supported continuation of the stabilization program as the appropriate way to support and protect that industry.

National Dairy Council of Canada

8.63 The National Dairy Council of Canada represents the manufacturing and marketing sector of Canada's dairy industry and its members process over 95 per cent of all the milk produced in Canada. The industry utilizes some 75.5 million hectolitres of milk annually and has annual sales of about $6.6 billion. For the past several years the industry has produced mainly for the domestic market but has also averaged close to one quarter billion dollars in exports annually.

8.64 The dairy industry is the third highest user of sugar in the food processing industry, after soft drinks and confectionery. Sugar costs, when dairy ingredients are excluded, represent 15.6 per cent of all other ingredients used in the manufacture of dairy products. The dairy industry uses a number of sweeteners, including HFCS, although the latter presents some problems because it lacks the required bulking properties.

8.65 The Council noted that it faces import competition in a number of product areas such as ice cream, yogurt and sweetened condensed milk; in 1984 imports were valued at $108 million. Any increase in the cost of sweeteners could lead to higher imports of these products.

Generally, the Council calculated that increases resulting from the adoption of the proposed floor price of 18 ¢/lb. would increase the industry's wholesale prices by $15-20 million or $30-40 million at the consumer level. A price increase of that size would reduce overall demand for dairy products and result in reducing employment by 380 person years.

8.66 The Council concluded that the proposed floor price for sugar would:

1. Increase the consumer price of dairy products;
2. Reduce employment;
3. Reduce domestic market share;
4. Reduce dairy farmers' income; and
5. Result in possible trade repercussions.

The Dairy Council was sympathetic to the problems of the beet and corn farmers but it thought that these problems should be dealt with in the context of existing stabilization programs.

8.67 All of the above positions presented by the various sugar users was formally supported by the Executive Committee of the Grocery Products Manufacturers of Canada.

CHAPTER 9: SUBMISSIONS BY GOVERNMENT AGENCIES, PROVINCIAL AND MUNICIPAL GOVERNMENTS AND OTHERS

The Director of Investigation and Research: Competition Act

9.1 The Director was an intervenant in this Reference as provided under section 97 of the Competition Act.

9.2 The Director based his analysis on publicly available data and reached the following conclusions:

1. The least appropriate course of action would be the imposition of any form of tariff, duty or levy on raw and/or refined sugar so as to protect or foster any segment of the domestic natural sweetener industry;
2. If it were decided to sustain either the sugar beet or the HFCS industry, a program of direct support payments would be the least costly to the economy and the least distortive of market forces; and
3. The Director supported the concept of making a one-time transitional payment to sugar beet growers to assist them to switch to other more profitable crops.

International Commission for the Co-ordination of Solidarity Among Sugar Workers (ICCSASW)

9.3 ICCSASW is an organization established in Toronto in 1983 and supported by GATT-FLY, a project of Canadian Churches for Global Economic Justice and by the International Affairs Committee of the Canadian Council of Churches.

9.4 The Committee sees the problem for Canadian sugar beet growers and of foreign raw cane growers and workers as being due to current low world prices. Low raw sugar prices reduce the ability of producing countries to import Canadian goods which contributes to a deteriorating balance of trade for Canada and thus to higher unemployment.

9.5 The proposed solution is to create a Sugar Board in the Department of Agriculture based on the 1956 Sugar Act of the United Kingdom. It was suggested that the principal merit in this proposal is that it would ensure a fair return on raw sugar production for developing countries and for domestic sugar beet growers.

9.6 ICCSASW estimated that the consumer cost would be approximately $90 million per year, or slightly more than $3.00 per person, but argued that this cost would decline as the world price of sugar rose. The benefit would be a higher level of Canadian exports and a reduced cost to the government for external aid.

9.7 ICCSASW suggested that in conjunction with the development of a Sugar Board the government should actively pursue an effective International Sugar Agreement with economic provisions.

Provincial and Municipal Governments and Other Interested Parties

9.8 The Board received 78 separate submissions from three provincial governments and a number of municipal governments, individuals, businesses and organizations. Submissions from Manitoba and Alberta were in support of the proposal by the Canadian Sugar Beet Producers' Association to establish a Canadian floor price of 18 Cdn.¢/lb., f.o.b. country of origin, for raw cane sugar at 96° polarity. There were briefs from each of the two provincial governments as well as from town councils (Manitoba 6, Alberta 9), irrigation districts (Alberta 4), individual growers (Manitoba 5, Alberta 2) chambers of commerce (Manitoba 2, Alberta 3), businesses (Manitoba 17, Alberta 20) and from individuals (Manitoba 1, Alberta 2). On the other hand, the submissions from New Brunswick were concerned with the negative impact that the proposed floor price would have on the economy of the Atlantic provinces. The Government of New Brunswick submitted its views to this effect and a joint submission by the City of Saint John and the Saint John Unity Committee was also presented on that subject. The latter was accompanied by several letters of support from the Saint John Port Authority, the Saint John Port Development Commission, the Saint John Board of Trade, the Saint John Fundy Region Development Commission, twenty-one businesses, and one each from a trade union, a trucking association and a citizen's advisory committee as well as one individual.

Manitoba

Provincial Government Submission

9.9 The Government of Manitoba made a submission for setting domestic sugar prices high enough to maintain and possibly expand sugar beet and corn sweetener production.

9.10 After reviewing the economic history of the sugar industry internationally, the Manitoba Government concluded in its submission that the world market is experiencing a prolonged surplus phase with the level of stocks at over 40 per cent of annual consumption, whereas with stable prices it would be at 25 per cent. Overproduction will continue, as long as nations pursue policies which isolate their producers from world prices. Moreover, the excess supply position is made even worse by the slowdown of sugar consumption.

9.11 The situation in Canada is different as it does not intervene to set domestic prices. As a result, Canadian producers of sugar beets are exposed to world price variations which are to their benefit in years when the world price of raw cane sugar is high and to their detriment when it is low. Manitoba pointed out that sugar beet growers had received deficiency payments under the Agricultural Stabilization Act (ASA) in 16 out the last 27 years. For the 1985 crop, the Manitoba Government matched the Federal Government's deficiency payment of $10 per standard tonne of beets. The commitment at that time was that any future support aimed at the sugar beet industry would come via a national sugar/sweetener policy rather than through government expenditures.

9.12 As a result of declining world prices, Canadian consumers gain and Canadian sugar beet producers and processors lose, to the point where Canada's industry for sugar derived from sugar beets faces extinction. Poor market prices and the lack of an ASA deficiency payment for 1983 and 1984 contributed to a sharp decline in sugar beet seeding in the spring of 1985. For the 1986 crop, beet acreage increased but this, Manitoba indicated, is probably a short-run reaction to federal and provincial deficiency payments as well as to recent discussions on tripartite price stabilization.

9.13 Given current market conditions, the short-run viability of the two beet sugar factories (Winnipeg, Man. and Taber, Alta.) is at risk. Management has stated that unless returns to growers and sugar producers improve, it will close the factories and supply Western Canada with refined cane sugar.

9.14 Although sugar beets provide less than 10 per cent of the Canadian sugar consumption, the regional importance of the sugar industry should not be underestimated. The Canadian sugar beet industry provides approximately 1,200 direct jobs. In Manitoba alone, the sugar plant employs 100 persons full-time and an additional 120 persons temporarily. During 1983/84 the Manitoba Sugar Co. paid $4.1 million in salaries and related benefits, and an additional $8.4 million for production inputs and services (not including beets). Payments to Manitoba beet producers for that year totalled $13.2 million. Loss of sugar beet production and processing in Manitoba and southern Alberta would be a serious blow to local economies. The impact of these losses would be particularly critical given the depressed conditions which already exist in the agricultural sector.

9.15 In addition to concern over maintaining and possibly expanding the existing sugar beet industry, it is important to consider the quantity of imported cane sugar that could be replaced by high fructose corn syrup (HFCS), given higher prices. Low domestic prices have retarded the development of the Canadian corn sweetener industry. The capacity of the wet-milling facilities which currently exist in Ontario is underutilized, with the bulk of the production exported to the more lucrative U.S. market.

9.16 From an economic point of view, if the benefits associated with domestic production and processing outweigh the additional cost to consumers, it is desirable to support domestic sugar production. Manitoba foresees two basic approaches by which this support can be provided. Both approaches involve an increase in the domestic price of sugar. The first approach is to restrict sugar imports. The second calls for a tariff on imported sugar. A tariff is preferable to an import quota because the difference between domestic and world prices can be collected by the federal government for redistribution.

9.17 The exact level of tariff required to provide an adequate level of support to domestic sugar producers is not known. As yet, there has not been a definitive study outlining the costs and benefits of a national sugar/sweetener policy. However, there are strong arguments for setting domestic sugar prices high enough to maintain and possibly expand sugar beet and corn sweetener production. Canadian sugar/sweetener prices are well below U.S. levels and, other things being equal, increasing Canada's domestic price of sugar/sweetener will not place Canadian manufacturers at a disadvantage vis-à-vis their U.S. counterparts.

Municipal Government Submissions

9.18 The Municipal Council of Rhineland, indicated that a major portion of the province's sugar beet crop grows in its area; ending its cultivation would have major repercussions on local industry and labour. The Council stated for example, that the 1982 sugar beet crop returned a cash income of $37.9 million to the growers, which in turn was injected in the Manitoba economy. The alternate crops to sugar beets, such as wheat and other grains, are already in surplus and at depressed prices. Attached to the Council's brief was the fact sheet prepared by the Manitoba Sugar Beet Producers' Association, Inc., which sets forth the following:

1. Sugar beets are a unique crop. They are grown, processed and marketed here. - We have no export problems. The value of the industry to the province, in jobs and economic spin-offs, is direct and immediate.

2. We create SIX jobs instead of ONE by producing our sugar domestically compared to importing and refining raw cane sugar.

3. Some 250 staff are employed on a full- or part-time basis at the factory and many more additional jobs are created at the farm level.

4. Economic activity is created in Winnipeg and the communities associated with sugar beet production.

5. Taxes are paid on fuel, and provincial sales tax, income and other taxes by truckers, farmers, employers, employees and suppliers.

6. If we decide to import our sugar, we will, in fact, be exporting these jobs and this economic activity. Sugar cane would NOT be processed in Manitoba.

7. Even at to-day's depressed prices, $80 million would leave Canada annually for imported raw sugar. In 1980, we imported 900,000 tonnes of raw sugar at up to 57c./lb. In 1974, the price was 65 ¢/lb. In 1985, the price dropped to 2.56 U.S.¢/lb.

8. Bilateral agreements cover 85 per cent of world sugar trade. The remaining 15 per cent establishes the free market price. Cuba sells raw sugar at up to 57 ¢/lb. It "dumps" surplus sugar into Canada at as low as 2.56 U.S.¢/lb. and is our competition.

9.19 The Council of the Town of Altona presented views similar to those in points numbered 1, 2, 5 and 7 above. It added that the governments of Canada and Manitoba have been stressing job creation and that "any move to eliminate the Manitoba sugar beet industry would certainly be a regressive step in this area". The Council of the Rural Municipality of Hanover, addressed points numbered 1, 2, 3, 5 and 8 above and stressed that sugar beets, in terms of productivity and gross return per acre to the farmer, is one of the most important cash crops in the area.

9.20 The Council of the Rural Municipality of Montcalm noted the direct and indirect benefits flowing from sugar beet farming to local, provincial and federal authorities. The sugar beet station located in Montcalm provides taxation revenue. Sugar beet farming generates approximately five times the revenue of a grain crop. The extra revenue assists the farmer in paying bills and municipal taxes. The cultivation of sugar beets also creates local employment which in turn reduces the federal government's unemployment insurance payments. The municipality pointed out also that there are indirect benefits to the country from growing sugar beets as amplified in points numbered 3, 4, 5 and 7 above.

9.21 The Council of the Village of Teulon drew the Board's attention to the economic benefits of the sugar beet industry in terms of the economic spin-off to local suppliers, truckers, etc. The Council of the Village of Niverville pointed to the general adverse economic and social effects of not assisting the sugar beet industry.

Other Submissions

9.22 The Rhineland Agricultural Society, Altona, noted the impact of sugar beet farming on the community. Local farm implement and truck dealers, and repair businesses rely on the local sugar beet industry for a large portion of their annual commerce. Labour required for planting, weeding, harvesting and piling the crop comes from the local area. The Society said that the sugar beet industry is beneficial to maintaining a rural lifestyle. It also mentioned points numbered 1, 2 and 3 above.

9.23 J. Alvin Falk, a sugar beet grower in Niverville, indicated that a national policy should be initiated to protect the sugar beet industry. Discontinuance of the industry, he stated, would create more unemployment, allow expensive machinery to remain idle, require shifting to alternate crops which are in surplus, and result in losses to equipment dealers. Both Mr. Willie L. Falk, a sugar beet grower in Niverville, and Gilbert and Juliana Gagnon, sugar beet growers in St. Pierre, presented similar views and requested a national sugar policy. B. Leppky of J & B Leppky Farms Ltd., a sugar beet grower in Tourond, also requested protection based on views similar to those expressed by the municipalities and other growers. On the other hand, Mr. Cliff Newmann proposed an excise tax of 2 cents per pound on all sugar sold which he suggested would not be an undue burden on the consumer or industrial sugar user and would allow the sugar beet industry to be self sustaining.

9.24 The Steinbach Chamber of Commerce indicated its support for the sugar beet industry and pleaded for a national policy to protect it. The Portage La Prairie and District Chamber of Commerce advanced several reasons why the sugar beet industry should be maintained. Canadian production of beet sugar although small, provides a degree of Canadian control on pricing policy. Direct and indirect spending in Manitoba may total $90 million. Employment benefits are significant locally as well; the sugar factory employs 100 persons full-time and 150 persons part time. The trucking industry employs 50 persons for four months and growers employ 500 persons for six months. With an investment of $14 million by the 400 beet growers and $100 million by the Manitoba Sugar Co. and $1.2 million by KT Farm Enterprises, a haulage firm, this industry has a significant role in the Manitoba economy.

9.25 The aforementioned points of view were supported by Niverville Feed & Farm Supply Ltd., Mr. Henry Falk, on behalf of a machine repair and motor vehicle maintenance shop, Niverville Credit Union Ltd., and West Park Motors Ltd., Altona.

9.26 Other firms presenting similar views were: Fairway Ford Sales Ltd., an automotive and truck dealership in Steinbach; Freisen's Repair Shop Ltd., a farm machinery and equipment repair shop in Altona; Anton Hilbert, a service station operator in New Bothwell; Rosetown Discount Centre Ltd., Gretna, a farm supply and garage repair shop; Reimer Farm Supplies Ltd., Steinbach; Rockwood Farm Supplies Ltd., Teulon; Chipman, a business unit of C-I-L Inc., Winnipeg; Landmark Agro Ltd., a fertilizer and chemical supplier located in Landmark; Nor-Am Chemical Company a manufacturer of sugar beet herbicides; Sawatzky's Payfair-Allied Store Ltd., Emerson; Steinbach Credit Union Limited, Steinbach; The Portage La Prairie Real Estate Board, Portage La Prairie; and N.M. Tilley Realty Ltd., represented by Mr. Tilley, a realtor and deputy mayor of Portage La Prairie.

Alberta

Provincial Government Submission

9.27 The Government of Alberta made a comprehensive submission regarding the Canadian natural sweetener industry. With respect to the sugar beet industry, the Government recognized that:

> "The current Federal Agricultural Stabilization Act is unable to satisfy criteria for maintenance of the industry, given current market conditions of prolonged low prices and the "designated" rather than "named" status of sugar beets under this legislation. However, the option for development of a tripartite approach does hold promise of reducing the impact of a sustained market downturn, but is unlikely by itself to provide a long term basis for the industry in the absence of improved market conditions.
>
> Current federal policies and programs do not address the current needs of the Canadian sweetener industry in general and the sugar industry in particular."

9.28 Regarding honey, the Government of Alberta observed that:

> "The Canadian honey industry is highly vulnerable to developments in United States farm programs for honey.
>
> Canadian honey industry programs and policies to date have positively influenced the development of this industry across the country.
>
> The health standards and regulations affecting disease control within Canada and the quality of imported packaged bees are essential to the long run viability of the industry."

9.29 While the Government of Alberta did not make a specific proposal it recognized:

- the need for federal government action to address the future of the Canadian sweetener industry in consultation with provincial and industry interests. Through such a forum, matters of consequence to this industry can be assessed and a course of action agreed upon;
- the potential for an enhanced sweetener industry in Canada in a commercial context, recognized the significant contribution of the Canadian sugar beet industry and viewed unbiased access to legitimate trade remedies as essential; and
- that consideration of a national sweetener policy should be consistent with efforts for freer and fair trade. The current policy framework of tariffs, preferential access,

> participation in an International Sugar Agreement, the application of the Agricultural Stabilization Act and priority accorded this industry need to be adequately addressed and supports the tripartite mechanism allowed under the Agricultural Stabilization Act as one of the viable options in support of the long term evolution of the Canadian sugar beet industry. This does not preclude consideration of other complementary policy options and supports the need to develop a policy framework which will allow Canada to maximize the economic opportunities offered by the Canadian natural sweetener industries.

Submissions by Regional and Municipal Governments and Authorities

9.30 Oldman River Regional Planning Commission, in its assessment of the economic prospects for domestically produced natural sweeteners and for the sugar beet industry in particular, requested consideration of the following:

> Local Concerns
>
> The production of sugar beets is a critical factor contributing to the stability of individual agricultural operations. The assured contracts for production and the guaranteed cash flow provided by the sugar beet industry are key elements in the continued viability of individual farming units.
>
> Regional Concerns
>
> Many of the region's urban communities will suffer a significant decline in growth and business because of the loss of farm income should the sugar beet industry be closed.
>
> Provincial Concerns
>
> Loss of the sugar beet industry will reduce the economic effectiveness of the substantial provincial and federal investments in irrigation. Production of specialty crops such as sugar beets yields a high return on these investments and sustains their economic viability.
>
> National Concerns
>
> The importance of the sugar beet industry to our future economic well-being is underscored by its linkages to other components of the economic base, including:

- transportation;
- production of herbicides, pesticides and fertilizers;
- special equipment manufacturing;
- the automotive industry;
- farm equipment manufacturing;
- petroleum consumption;
- limestone quarrying;
- coal cooking;
- natural gas;
- irrigation equipment; and
- municipal, provincial and federal taxes.

> All of these industries will suffer declining activity with the loss of the sugar beet industry.
>
> Canada will also be subject to the cyclical price changes of sugar if our long-term national policy becomes one of total reliance on off-shore sources for this very basic and key commodity.
>
> Maintenance of the sugar beet industry, on the other hand, provides a solid base of supply that could be expanded in response to changing levels of demand.
>
> Closure of the sugar beet industry brings with it the possibility of irretrievable economic loss on a national scale, as well as irreparable disruption of the agricultural base of southern Alberta.

9.31 The Town of Taber, represented at the public hearing by Mayor George Myer, made points similar to the above. He used the trucking industry as one example to illustrate the importance of the potential economic loss of sugar beets. The town estimated freight revenues related to sugar beets at $6.1 million. This figure did not include revenues from the sale of truck-tractors and trailers nor of the mechanical units manufactured in central Canada, nor of the tires and other replacement parts manufactured in other regions of Canada. In addition the retailers, drivers and mechanics were local people and the money paid out in freight remained in Canada.

9.32 In his oral statement Mayor Myer indicated that his community had experienced first hand, in 1985, the economic repercussions of not growing sugar beets. The Mayor indicated that in 1986 beets were produced again due in part "to some much needed financial assistance from the government of Canada. The subsidy given to the beet growers certainly went a long way ... but it was far from the permanent, more certain cure the beet industry needed to remain viable". The Mayor went on to describe the human investment in the development of the sugar beet industry and pleaded for protection of Canadian growers and refiners against imported subsidized sugar.

9.33 The Municipal District of Taber No. 14 reviewed the history of the sugar beet industry in Alberta and pointed out that problems experienced in the past had been overcome. The brief expressed the hope that the vision and foresight displayed by early pioneers would mark the establishment of a sugar policy. In addition to describing similar economic benefits as above, the brief stated:

> It seems that in this day and age of world surplus of cereal grains, etc., any diversification by the farmer could spell the difference of success or failure to him. Even from the very beginning, sugar beets have been an excellent rotation crop, benefiting other crops grown before and after them. The ranching industry profits as well from the by-products created in the sugar production process. Beet pulp is used for feed for cattle. If a natural sweetener policy is adopted by Canada, it could lead to the expansion of the sugar beet industry.

9.34 The Town of Vauxhall also noted the economic importance of the sugar beet industry to its area. Its brief emphasized:

> It's important to recognize that what we are suggesting is not a subsidy or a special consideration but merely that the growers in this country, particularly in Alberta, be afforded the opportunity to grow beets at a competitive price. It is important to recognize that while 85 per cent of the world's sugar production is protected by contract, the remaining 15 per cent, which at this time is oversupply, over production, is dumped on the world market and is therefore sold at a very depressed price. That's the kind of sugar the growers are trying to compete against.
>
> The long term answer is a national sugar policy ...

9.35 The Town of Picture Butte made similar comments on the economic and social effects of not assisting the sugar beet industry. It noted further that: "While the cost of maintaining the sweetener industry in Canada must be considered, it is far outweighted by the advantages." The Towns of Coaldale and Bow Island repeated some of the points made in other briefs regarding the importance of the sugar beet industry to local, provincial and national economic interests.

9.36 The County of Lethbridge, represented at the public hearing by Alderman Nemeth, contended that the closing of the Raymond and Picture Butte processing plants, as well as a large number of piling stations throughout the sugar beet growing area, increased the banking costs to producers and severely reduced the economic viability of the smaller rural centres in the County of Lethbridge. Large provincial expenditures for irrigation such as the $16 million and $100 million for canal rehabilitation on the Oldman River and the St. Mary River respectively, during the last four years, had been made in recognition of the future viability of diversified crop production in Alberta. Furthermore, future expenditures such as the Three Rivers Dam Project on the Oldman River, are being considered. The farmer has been given the opportunity to plant a crop that matured and required water at a different time of year than cereal grain crops and the number of months the irrigation system is required to be in operation has increased.

9.37 In an oral statement, Alderman Nemeth tied the future of the sugar beet industry to the future of the agricultural economy as a whole. Mr. Nemeth asked "Will we drift then in monoculture in our area, and by that I mean grain only?", having in mind the problems related to a monoculture as identified by research stations, universities and colleges.

9.38 The City of Lethbridge, represented at the public hearing by Alderman Don Le Baron, acting Mayor, who was accompanied by Alderman John Boras, described the economic contribution of the sugar beet industry. They quoted a study by Alberta Agriculture which estimated the value of beet production to be approximately $170 million in 1984, when final demand and the multiplier effect of this spending are included. The number of direct employees were estimated at 650 growers and 300 part time and full time employees in the beet sugar processing industry.

9.39 They also quoted another Alberta Agriculture study which found that although the average producer uses a relatively small amount of acreage for beet cultivation, about 18 per cent of an operation's total acreage, the return is high, as over one-third of a beet grower's average cash receipts are derived from the sale of beets. The aldermen noted also that while input costs were high for a sugar beet crop, these greater expenditures increase the benefits to the Lethbridge economy and that it is such high-input, high-value cash crops as sugar beets that allowed "investments in irrigation projects such as the $250 million Three Rivers Dam ...". The presence of a sugar beet industry in Southern Alberta as an advantage to attract food processing plants was also noted.

9.40 Aldermen Le Baron and Boras emphasized the current difficulties of the Alberta agricultural economy and the importance of the sugar beet industry to the way of life of farmers in Southern Alberta, even to the survival of some farms.

9.41 Briefs in support of the sugar beet growers' proposal were also received from the Taber Irrigation District, Bow River Irrigation District, the Lethbridge Northern Irrigation District and the Alberta Irrigation Projects Association. Points already mentioned were made. In addition, the brief from the Lethbridge Northern Irrigation District indicated that "The result of irrigation was worth $941 million to the Alberta economy in 1983". (Economic Impact Study, A.I.P.A. 1984). The same study suggested that irrigation activities created 35,000 jobs. It suggested, as had the Alberta Irrigation Projects Association, that prices would eventually increase as labourers in third world countries obtain a fairer return for their labour and that Canada would then regret not having supported an industry which could be viable.

9.42 The Bow River Irrigation District stated that Canada's rights under GATT allowed Canadian subsidization of 25 per cent of its domestic sugar requirements without violation of the terms of the agreement. Currently, it was noted, Canadian production amounted to eight per cent of domestic annual consumption. The Taber Irrigation District added that sugar beet acreage had become attractive to other irrigated areas over the years and it could foresee a larger acreage if support for the sugar beet industry were implemented.

Other Submissions

9.43 The Board also received submissions from Joan Boras and Helen C. Boras, both sugar beet growers in Picture Butte. They reminded the Board of the importance over many generations of the economic as well as human investment in growing sugar beets. Money has been invested in specialized equipment and farmers depend on the cash income from sugar beets to meet bank payments. They underlined the unfairness of the conditions under which labourers in third world countries had to toil and wondered about Canada not protecting its agricultural industry when others did.

9.44 A brief was also presented by Mr. Raymond A. Speaker, M.L.A. Leader of the Representative Party, Little Bow. In addition to making several of the economic points noted above, Mr. Speaker feared that the absence of a national sweetener policy would lead to the elimination of the industry. He also expressed the view that a tariff would improve Canada's balance of trade and would remove the financial burden from government and place it in the domain of the consumer or the importer. Only then will the system be free from government policy change, budgetary restrictions and artificially subsidized foreign imports.

9.45 The Lethbridge Chamber of Commerce advised that the sugar industry is vital and necessary to the entire agricultural economy of Southern Alberta. The brief was accompanied by letters of support from the membership: W.T. Hill Farms Ltd., livestock farmer; Ellison Milling

Company, a user of sugar, molasses and beet pulp; Palliser Distillers Limited, a manufacturer of liqueurs and cordials; Gergely's Glass, a manufacture of replacement windshields for sugar beet trucks and of glass for toppers and harvesters; TransAlta Utilities Corporation, a supplier of electrical power and energy, the sugar beet growers, especially with respect to irrigation, being one of its largest customers; Marshall Auto Wreckers Ltd., a parts supplier and repair and service dealer for farm equipment which had considered laying off 6 employees from its payroll of 33 in 1985, when a crop was not seeded; Edwards Rod Weeder Ltd., a manufacturer of farm machinery; J.I. Case Canada, which estimated that 30 per cent of its business is related to sugar beets; Evcon Farm Equipment Ltd., which stated that approximately 45 per cent of its customers grow sugar beets; Oliver Industrial Supply Ltd.; Lethbridge Truck Equipment Ltd.; Brown Tractor & Equipment Inc.; City Plumbing (Lethbridge) Ltd.; Watkinson, Hanhart, Duda Dorchack, chartered accountants; The Bank of Nova Scotia and Jim Hahn, Pool representative. All of these beet supporters are located in Lethbridge.

9.46 The Picture Butte and District Chamber of Commerce also called for "a National Sugar Policy with an adequate floor price", recounting previously cited economic benefits.

9.47 The Taber Chamber of Commerce underlined the importance of the sugar beet industry to the economy and the social fabric of the community. The Chamber argued that the Alberta sugar beet industry could compete on a fair basis with any growers in the world. It recognized that a Chamber of Commerce could not easily recommend subsidization, but urged the government to find a way to maintain a healty Canadian sugar beet industry.

9.48 Mr. Peter Bergen of Taber stated that federal governments through various programs have encouraged job creation and crop diversication and the Canadian government should therefore make the required effort to maintain a proven efficient industry as valuable as the sugar beet industry. He proposes that government support be in the form of either direct subsidy or through the development of appropriate and fair sugar import regulations. In examining alternatives, if the government decides to subsidize sugar beet growers, it will be because that solution is deemed to be less costly to Canadians as a whole. As such Mr. Bergen states that the subsidy will not be a subsidy in the traditional sense, since it will really be the recognition of the government's obligation to respond to an unfair situation.

9.49 Kirchner Machine Limited, Lethbridge, a manufacturer of farm equipment, including sugar beet equipment, indicated that in some years sugar beet equipment represents 80 per cent of its manufacturing output. In 1985, when a crop was not seeded, the company laid off all but seven employees and was left with an inventory of $300,000 in unsold equipment. The firm proposed a national sugar policy and the appropriate steps under SIMA (Special Import Measures Act) to prevent dumping.

9.50 The Canadian Western Natural Gas Company Limited, Calgary, noted that the Alberta Sugar Beet Co. processing plant at Taber is one of its largest industrial customers, purchasing approximately 1.4 billion cubic feet of natural gas annually. In addition, 1900 irrigation farmers including 610 sugar beet growers purchase 1.2 billion cubic feet of natural gas for their irrigation pumps. The company hoped "that positive recommendations can be found to assure the retention of this vital industry".

9.51 Harry Watson Farm Supply Ltd., Picture Butte, a farm equipment dealership, noted the importance of the sugar beet industry to its firm and the community, and argued that "a long term commitment to a viable Canadian sugar industry would encourage us to execute existing plans for expanding facilities, purchase operating essentials, and hire and train additional personnel."

9.52 Ken McDonald Chev. Olds, Taber, indicated that it sells 375-400 new vehicles annually, and estimated that at least 40 per cent of its sales are the direct result of the sugar beet industry. Furthermore, the loss of the beet industry would weaken community life. The firm argued that Canada should give "our sugar beet growers and refiners the same protection all other sugar beet countries give theirs".

9.53 Penner's Mens Wear Ltd., Taber, a retailer, foresees staff cuts, inventory reductions, reduction in capital expenditures and in contributions and charitable donations, not only from its operations but as well from "hundreds of businesses in Alberta and Manitoba" if the sugar beet industry were to disappear. It was further noted in the brief that:

> "... although we as Canadians have for many reasons, a relatively inefficient manufacturing sector, it nonetheless must be maintained. This is achieved by various tariffs, duties and import quotas. The Canadian public knows and accepts this concept as a fact of life and pays the price. In the case of the sugar beet growers, however, we have an industry that is efficient, has tremendous growth potential, and requires nothing more than protection from the treasuries of foreign governments to be a self-sufficient and profitable arm of a depressed agricultural sector."

New Brunswick

Provincial Government Submission

9.54 The Government of New Brunswick expressed its utmost concern about the serious ramifications to the New Brunswick economy if an increased import tariff on sugar cane were to be imposed.

9.55 The City of Saint John would be hit particularly hard. Its unemployment rate is one of the highest in the country and coming at a time when job creation is an expensive and difficult process, the loss of a well-established, successful enterprise like the Lantic Sugar refinery would be unacceptable.

9.56 Lantic Sugar is responsible for the following contributions to the New Brunswick economy:

- 400 direct jobs representing an annual payroll of $10 million. This constitutes 19.3 per cent of the total of the New Brunswick food and beverage industry,
- 200 indirect jobs in Saint John alone,
- $12 million worth of purchases in goods and services annually - 75 per cent of which are local,
- over $400,000 in taxes annually to the New Brunswick government,
- increased activity in the Port of Saint John of up to 20 vessels per year. The Company imported 197,000 tonnes of raw sugar cane in 1985 and will import 230,000 tonnes in 1986. The increased harbour activity is significant, providing extra work for pilots, tugs and stevedores. In fact, $1,211,000 went to the Saint John economy last year as a result of Port activities alone.

9.57 Furthermore, the suggested 25 ¢/lb. tariff on raw sugar cane will adversely affect jobs throughout the food and beverage industry of New Brunswick, and, likely, of Atlantic provinces. For example, in New Brunswick:

Confectionery industry:

- It is comprised of five companies. Because of the huge volumes of sugar purchased by these companies, any significant increase in sugar prices would effectively destroy the industry. Roughly 350 jobs would be sacrificed, of which 240 are located in an area where the unemployment rate is close to 30 per cent.

Baking industry:

- Increases in ingredient costs to bakeries, which currently employ close to 900 people, could adversely affect the industry.

- In particular, McCain Foods in Florenceville uses substantial amounts of sugar in its line of frozen desserts. Therefore, an imposed tariff would increase the costs to the consumer of several items in the food chain.

Dairy industry:

- It includes ten firms. They would be faced with increased raw ingredient and freight costs, particularly in their ice cream and dessert product lines.

Soft drink industry:

- It could conceivably substitute a corn sweetener in the production of its commodity should sugar prices escalate unrealistically. However, in any case, the consumer again would be faced with price increases.

Distilling and cattle feed industries:

- Blackstrap syrup, which is the residual product of refining sugars from raw cane sugar, is used as an ingredient in the production of spirits and as an additive in the preparation of cattle feed. One local firm now purchases this material for distribution as part of its business.

9.58 In conclusion, the Government of New Brunswick requested that the above points be weighed before any decision is reached on the proposed tariff increase, inasmuch as it

- will have the effect of losing jobs in Atlantic Canada, in order to protect jobs outside that region. Such a result would be intolerable to Atlantic Canada; and
- would actually work counter to federal incentives for job creation in New Brunswick.

Municipal Government Submissions

9.59 The City of Saint John, represented by Mayor Elsie E. Wayne, made a joint presentation with the Saint John Unity Committee. The Mayor was assisted by Messrs. Malcolm Somerville, co-chairman, Saint John Unity

Committee; David Ganong, President, Ganong Bros. Limited; John Wheatley, Manager, Lantic Sugar Limited's Saint John refinery; Ben Donaldson, President of Local 443, Bakery Confectionery & Tobacco Workers International Union; Ralph Murray, Executive Director, Saint John Port and Development Commission; Donald O'Leary, General Manager, Saint John Fundy Region Development Commission Inc.; and Donald Hackett, President, Saint John Board of Trade.

9.60 They argued that acceding to the proposal put forward by the Canadian Sugar Beet Producers' Association, the Ontario Corn Producers' Association and CASCO Company for the establishment of a floor price for sugar in Canada would displace non-subsidized jobs in Atlantic Canada in favour of subsidized agricultural activities in Central and Western Canada. The anticipated increase in the cost of sugar would be so detrimental to the economic viability of the Lantic Sugar Limited (Lantic Sugar) Saint John refinery as to cause the closure of this refinery with the attendant loss of 400 jobs and, as indicated by the Saint John Port Development Commission, the loss of direct calls at the port of Saint John of 20 deep-sea vessels per year. This loss of shipping would affect adversely the employment of federal pilots at the port of Saint John, longshoremen, ship's agents handling the entry, clearance and husbandry of vessels in the port, tugs in docking and undocking and linesmen in tying up vessels.

9.61 Furthermore, this decreased activity would have a negative impact on the port's future and its status as a Local Port Corporation. The Port of Saint John Authority estimated direct employment in the port as a result of Lantic Sugar's importation of sugar to be 1,700 person-hours in stevedoring and two person-years in cargo handling. It further estimated direct revenues accruing to the port from sugar imports to be $1.2 million annually.

9.62 Crosby Molasses Company Limited, Saint John, stated that it would also suffer from the closing of Lantic Sugar. It would lose the cost advantage associated with the proximity of supply and be forced to terminate the employment of ten persons. Crosby also purchases Lantic Sugar's entire production of blackstrap molasses which it processes as animal feed. A floor price for sugar would force it to import molasses at higher values for duty and to pass the higher costs on to farmers. The higher tariff on sugar would also result in higher prices to consumers of fancy molasses which Crosby has been importing from Carribean suppliers for 100 years.

9.63 G.M. Armour & Son Ltd., Moncton, a trucking company, forecast that the closure of Lantic Sugar would mean a loss of 18 to 20 jobs as well as $400,000 in lost purchases of fuel, repair parts and other supplies. In the long run, G.M. Armour & Son Ltd. foresaw the possibility of its closing.

9.64 Bonar Packaging Ltd., Fredericton, indicated that a reduction in packaging purchases by Lantic Sugar would affect its break-even point and could jeopardize the employment of 50 people. H.E. Kane Agencies Ltd., Saint John steamship agents, stated that Lantic Sugar accounts for 30 per cent of its business and estimated that its loss would result in staff reduction and a reevaluation of the company's future.

9.65 The Bakery, Confectionery & Tobacco Workers International Union, Local 443, Saint John, pointed out also that on the basis of past experience with soft sugar markets, which had resulted in lost wages in the form of reduced work weeks and shut-downs, it is likely that additional lost earnings or even a permanent plant closure might ensue from the setting of a floor price for sugar.

9.66 The Charlotte County Citizens Advisory Committee, St. Stephen, voiced its concern about the impact of the proposed minimum price on the viability of Ganong Bros., Limited, St. Stephen, a confectionery manufacturer with more than 200 employees. The same concern was contained in a separate letter from Ganong Bros., Limited, which was expanded upon before the Board by David Ganong. He stated his apprehension about the closure of the Lantic Sugar refinery as a result of the proposed increase in the price of imported sugar. In his view, it would result in the loss of Saint John as an f.o.b. pricing point, that is, as a base for quoting sugar prices. Montreal would become the pricing point for sugar sold in the Atlantic region and would result in higher prices. This change would make Atlantic Canada less attractive to potential food processing companies and would have a serious impact on employment in sugar refining and in confectionery manufacturing in Canada.

9.67 Mayor Wayne drew the Board's attention to the high rate of unemployment in Saint John and the consequences of the 1980 recession which are still being felt and she again questioned the justification for initiating a tariff on sugar which would have the effect of closing the Lantic Sugar refinery. The Saint John Board of Trade supported the mayor's comments and indicated that the backbone of the city's economy was the manufacturing sector which employs one in eight of the city's 48,000 working people. Lantic Sugar which employs nearly 400 persons has an annual payroll of $10 million, purchases $12 million of supplies, three quarters of which were bought locally, and plays a leading role in the community life of Saint John.

9.68 Enterprises which supported the joint submission by the City of Saint John and the Saint John Unity Committee were: the Atlantic Provinces Trucking Association, Riverview; Jumbo Motor Express Ltd., Etobicoke, Ont., a hauler of sugar from New Brunswick; Kennedy Agencies Limited, Moncton; CB Coastal Bearings Sales Limited, Saint John; New System

Holdings Ltd., Saint John; Baxter Foods Limited, Saint John; G.E. Barbour Company, Limited, Saint John; Domglas Inc., Moncton; Twinpak Atlantic Inc., Moncton; Hopper Electrical Ltd., Saint John; and, N.L. Eldridge & Co. Ltd., Saint John.

9.69 Mayor Wayne also mentioned at the hearing that the closing of Lantic Sugar could result in the closing of a bottling plant in Stellarton, Nova Scotia. In addition, the Mayor mentioned the possible negative impact on Moncton if the bottle manufacturer were to close, at the cost of 275 jobs and a payroll of $7 million, and the negative impact on the food processing industry in both the Upper Saint John River Valley in New Brunswick and the Annapolis Valley of Nova Scotia and finally the potential cost increase to consumers in the Maritime Provinces. All in all, the Mayor anticipated that the closure of Lantic Sugar's Saint John refinery could result in the direct loss of 1,000-2,000 jobs in the Atlantic region and the permanent loss of $30 million annually in wages.

9.70 Brookville Transport Limited, Saint John, stated that the proposed floor price on cane sugar would have serious repercussions on Lantic Sugar and, as a result, on Brookville which transports goods to and from Lantic Sugar. Brookville Transport added that Southern Ontario, where the climate is suitable for growing corn, cannot pretend to serve all of Canada's needs (for corn sweetner). Furthermore Brookville stated that the growing of sugar beets in Western Canada is economically marginal and takes place in an unsuitable climate. Brookville suggested that a review of the European Economic Community's subsidization of the sugar beet culture would show the folly of adopting a similar program for Canada.

9.71 Maritime Beverages Limited, Saint John, supported the joint brief and indicated that it purchased all its sugar requirements from Lantic Sugar. Moreover, the soft drink industry in the Atlantic Region purchases 90 per cent of its sweetener requirements of 40 million pounds annually from Lantic Sugar. Higher sugar prices would increase costs and result in the substitution of sugar by HFCS. It was estimated that the higher tariff would generate customs revenues of $300 million while the benefit to sugar beet growers would total only $25 million. The firm was of the opinion that the end result of the tariff would be the transfer of jobs from New Brunswick to Ontario. Similar views were expressed by Brunswick Bottling Ltd., Woodstock, and Atlantic Wholesalers Ltd., Sackville.

9.72 Lantic Sugar Limited, Saint John, provided a list of fourteen of its major suppliers in the Saint John area of which four represent sales of $6 million and the remainder between $50 to $100 thousand annually.

9.73 Some of the views expressed by the Saint John Board of Trade were made also by the Saint John Fundy Region Development Commission Inc. A separate brief was submitted by Ms. M.E. Travis of the Saint John Unity Committee which raised similar issues.

CHAPTER 10: SUBMISSIONS ON BEHALF OF CONSUMERS

Consumers' Association of Canada

10.1 The Consumers' Association of Canada (CAC) is a non-profit organization with approximately 160,000 members in all parts of Canada. The CAC's interest in the inquiry was focussed primarily on the possible impact of any change in sweetener policy on the price consumers pay for sugar. The CAC was also interested in the inquiry because the outcome could have significant international trade implications and an important impact on Canada's agricultural policy. As well, the effect of raw material prices on the competitive position of Canada's food industries, and consequently on employment in Canada are of concern to the CAC.

10.2 On the basis of these concerns the CAC stated that no consideration should be given to the use of trade measures to address the difficulties presently facing sugar beet growers. The introduction of a floor price of 25 ¢/lb. (55 ¢/kg) for imported raw sugar would triple its cost and impose an enormous cost on consumers. It is possible that the cost to consumers could be even greater than the $400-500 million estimate by the CSI, which is based on the assumption of a 100 per cent pass-through, if the multiplier, or trickle down effect of higher input costs in the food processing industry are taken into consideration. The CAC does not have the resources to commission a study examining the additional costs of a floor price to consumers but strongly recommends that the Board provide reliable estimates of the costs to consumers of this as well as any other proposal that might be submitted. The trickle down effect of the adoption of the floor price for imported raw sugar, the CAC suspects, is similar to the effect of higher wheat prices on a loaf of bread, where an increase of 55 ¢/bushel in the price of wheat represents less than a one cent increase in the cost of wheat in a loaf of bread and translates in an increase of more than 5 cents per loaf in the price to consumers.

10.3 The CAC states that Canadian consumers cannot be expected to believe that the assistance they provide when prices are low (because of the increased costs to them as a result of the floor price) will be rewarded when world prices are high (i.e. higher than the floor price).

10.4 It noted that import measures are an inefficient means of assisting domestic producers. Any measure that raises the price of imported products, whether it does it directly with a tariff or a surtax or indirectly with quotas that restrict supply, is an inefficient means of assisting domestic producers. Trade barriers raise the price consumers pay for imported goods and this produces a transfer of income from consumers to producers. The higher prices also cause a contraction of demand and this produces a dead weight loss which represents a net loss to society. Furthermore, with only about 10 per cent of the refined sugar that is consumed in Canada produced from domestic sugar beets, import measures are considered to be particularly inefficient. A floor price on imported sugar would result in raising the price on 90 per cent of Canada's sugar needs with relatively little of the increase ending up in the pockets of sugar beet growers.

10.5 The CAC indicates that the imposition of any import measure will imperil Canada's trading relationships and the need to compensate our trading partners could pose a threat to our exports with a resulting impact on unemployment. In particular, Canada's agricultural sector needs to have access to world markets. Canada's farmers are as efficient as any in the world in the production of many commodities. It is therefore important that Canada should be urging an end to the subsidy wars and import restriction policies that have plagued world trade in agricultural policies.

10.6 With respect to the impact on other industries, the CAC submits that higher sugar prices could lead to a contraction of the refining industry because the higher prices would allow domestic beet sugar and HFCS to displace imported raw sugar. Also, higher sugar prices would eliminate an important advantage presently enjoyed by many firms in the food processing industries.

10.7 The CAC urged the Board to draw a clear distinction between the sugar beet industry and the high fructose corn syrup industry because the HFCS industry is prospering. Ontario's corn farmers have alternative markets and there is no assurance that they would benefit materially from an expanded HFCS industry. The CAC believes that any import measure that raises the price of raw sugar enough to be effective will help the HFCS industry more than it will help the sugar beet industry which is the industry that suffers the most from low world prices.

10.8 The CAC submits that it is sound public policy to target assistance as much as possible to the industry that needs it. If it is determined that assistance is needed, assistance should be temporary and it should be provided as efficiently and as directly as possible using the existing stabilization program or a similar program. Direct payments to producers are a more efficient form of assistance than transferring income indirectly from consumers to producers by artificially raising the price of raw sugar. Direct payments are also a much less costly form of assistance. The total amount of all stabilization payments made during the last twenty-five years is less than the costs that would be incurred by consumers in one year as a result of the sugar beet growers' floor price proposal.

CHAPTER 11: SUBMISSIONS OF SUGAR EXPORTERS

Belize Sugar Industries Limited

11.1 The sugar industry of Belize made a brief submission in order to remind the Board how dependent its country is in both economic and social terms on its raw sugar exports to Canada. For example, in the period from 1982 to 1985, between 48 and 100 per cent of its non-preferential quota sugar was exported to Canadian refiners.

Cubazucar

11.2 Cubazucar is the commercial enterprise created in 1962 to conduct Cuba's sugar trade, but the historic sugar trade relationship between Cuba and Canada extends back for more than forty years. The Cubazucar representative pointed out that during the period 1980-85 the balance of trade between Cuba and Canada was more than 3 to 1 in Canada's favour. Nevertheless, in 1985 alone, Canada accounted for 34 per cent of Cuba's sugar exports to the hard currency markets.

11.3 The Cubazucar representative stated that the main reason for the current low sugar prices on the world market was due in large part to the recent protectionist policies of the U.S. and EEC. If Canada were to adopt a similar policy, the problem would only get worse.

11.4 The Cubazucar representative noted the reference to the Landell Mills Commodities Studies as the source of the figure of 18 U.S.¢/lb. as the cost of production of the most efficient producers. She stated that costs vary from mill to mill but denied that the Landell Mills data bears any degree of accuracy in relation to actual Cuban sugar costs and denied that Cuba "dumped" sugar on the world market. In any event, Cuba is a GATT contracting party and would formally object to the GATT Council if Canada were to institute a floor price for sugar and a sugar procurement agency.

11.5 In conclusion, the Cubazucar representative observed that certain other participants had alleged that Cuba subsidized sugar production. This she denied and argued that, in fact, sugar subsidizes the rest of the Cuban economy.

Sugar Commission of Fiji

11.6 The Sugar Commission submitted that sugar was the mainstay of the Fijian economy. In the past, Canada (Vancouver) had been a major market for Fijian sugar but, at present, this market is held by another Commonwealth supplier. If Canada were to adopt the floor price proposal, Fiji would be excluded as a possible future source of supply.

Guyana Sugar Corporation Limited

11.7 The Chairman of the Guyana Sugar Corporation Limited presented a submission outlining the importance of sugar to his country. In Guyana sugar provided 27.4 per cent of total export earnings and employed 31,500 persons. Canada has been the major free market purchaser of Guyanan sugar with actual shipments as follows:

	Tons (long)
1982	24,294
1983	28,967
1984	5,413
1985	8,742
1986	19,684

At the time of writing 1987 sales already totalled 20,000 tonnes.

11.8 The Corporation expressed the hope that Canada's policy towards the Caribbean Basin developing countries would not deprive it of reasonable access to the Canadian sweetener market.

The Sugar Corporation of Malawi Limited

11.9 The Corporation stated that Malawi sold raw sugar to Canada in 1983 and 1984 as it lost quota access to the U.S. market but that these shipments have ceased because it lost railway access to the seacoast through Mozambique. It was hoped that these railway links would be restored in the near future and that Malawi would again be able to compete for a share of the Canadian market. In the meantime, Malawi, a GATT signatory, hoped that Canada would not do anything to impair access to the Canadian raw sugar market.

Mauritius Sugar Syndicate

11.10 The Syndicate noted that Canada is probably the most outstanding example of a free market in the world sugar economy. Mauritius exports to Canada have declined in recent years because of its obligation to supply sugar to the EEC under the Lomé Sugar Protocol but this trend is likely to be reversed in 1986 because of an exceptional crop. Mauritius exports to Canada for the last five years were as follows:

		Tonnes
1982	-	13,500
1983	-	15,000
1984	-	13,000
1985	-	-
1986	-	43,000 (estimated)

11.11 If Canadian preferences were abolished Canadian importers could find themselves deprived of sources of supply which have formed the bulk of their imports over many years and without which they might become vulnerable.

The Queensland Sugar Board

11.12 The Queensland Sugar Board's representative noted that the Tariff Board had been instructed by the Minister to take account of Canada's international obligations. As between Canada and Australia there were two, the GATT and the Canada-Australia Trade Agreement.(1) While the Sugar Board could not speak for the Australian government, it observes that the government is aware that sugar was Australia's largest export to Canada.

11.13 Since Australia is one of the four largest sugar exporters it is in a position to provide the Board with a knowledgeable analysis of the current world situation. It stated that, while some estimates of current stocks may be too high, stocks are still well above 25 per cent of consumption at which level prices could be expected to rise. For the immediate future, therefore, the free market price of sugar was likely to remain depressed. The long term trend in world consumption is expected to be one of continued growth but at lower rates than in past years. Total world consumption growth had slowed from an annual average of 5 per cent in the 1950's to 2.4 per cent in the 1970's and to 2.3 per cent to date in the 1980's. Over the next decade, based on historical trends, it would be reasonable to expect annual growth in total consumption of 1 to 2 per cent, with most of the growth occuring in developing countries.

11.14 The Sugar Board's submission concluded by expressing its belief that the advantages to Canada in purchasing sugar from Australia, in terms of reliability of supply, quality and competitive world price, are of significant and important advantage to Canada.

11.15 At the public hearing the Australian representative stated that, while he was somewhat hesitant about going into detail about costs of production, there were producers in the Australian sugar industry that could survive for several years at a world price lower than 7 U.S.¢/lb. In the long-term, Australian costs are such that the entire industry could survive without trouble if the world price were 9-11 U.S.¢/lb. He recognized that Landell Mills Commodities was a highly regarded organization but contended that he could point out a lot of problems, difficulties and unreliable points in its study of world sugar costs.

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(1) The Canada-Australia Trade Agreement, 1960.

11.16 In response to questions by the Board, the Australian representative stated that Australia, Brazil, the United States and the European Community are holding private discussions in an attempt to clear the way for the possible multinational negotiations of a new International Sugar Agreement. It is hoped that such an agreement will contain meaningful economic provisions but he thought it would be some time before such an agreement could be reached.

Swaziland Sugar Association

11.17 In recent years Swaziland has produced approximately 400,000 tonnes of sugar annually and its recent exports to Canada have been as followed:

	Tonnes
1982	29,619
1983	101,134
1984	60,129
1985	73,857
1986	148,439 (estimated)

The Swaziland representative stated that Canadian refiners found Swaziland sugar attractive because of its high quality and reliability of supply. Canada was the largest market for Swaziland sugar.

11.18 At the public hearing the Swaziland representative denied the allegations of dumping and argued that his country was one of the world's most efficient producers of sugar and that the industry could survive indefinitely with the current world price of 7 U.S.¢/lb.

Zimbabwe Sugar Association

11.19 The Association stated that its producers are recognized as being among the most efficient in the world with yields well above average. The quality of its raw sugar is comparable to the best in the world and is ideally suited to the technical requirements of the Canadian refineries. The Association's shipments to Canada during recent years were as follows:

	Tonnes (raw value)
1983	15,806
1984	50,296
1985	39,013
1986 (to Nov.)	40,065

11.20 In commenting on the international situation, the Association stated that, given the low price for sugar on the world market, only a few highly efficient suppliers such as Zimbabwe could remain in the market for the longer term. In this regard, it did not expect any significant improvement in the world price for the forseeable future.

11.21 At the December public hearing the Association's representative responded to allegations by others that raw cane sugar was being subsidized or dumped on the world market. He argued that this allegation was based on the erroneous assumption that 18 Cdn.¢/lb. f.o.b. country of export corresponded to the "cost of production of the most efficient producers in the world". He requested that the Board, in its Report, caution the Minister that this cost is a highly inflated estimate of the actual cost of production of the most efficient producers.

SECTION IV: REVIEW, PROSPECTS AND OPTIONS

Section IV, comprising Chapters 12 to 14, addresses the particular requests in the Minister's letter. Chapter 12 is an overview of the current natural sweetener market in Canada with particular reference to the factors mentioned in the second paragraph of the Minister's letter. Chapter 13 provides an assessment of the longer term economic prospects of domestically produced natural sweeteners and provides an assessment as to whether market conditions will put competitive pressure on the domestic sugar beet and high fructose corn syrup industries. Having concluded, in Chapter 13, that market conditions will put competitive pressures on the domestic sugar beet industry, the Board, in Chapter 14, examines the scope for possible government action to assist that industry and describes the alternative course of action available.

CHAPTER 12: OVERVIEW OF THE CURRENT NATURAL SWEETENER MARKET IN CANADA

Market Shares

12.1 Currently, Canadians consume annually some 1.5 million tonnes of natural sweeteners. In 1986, about 61 per cent of this demand was supplied by the domestic refiners of imported raw cane sugar, and 4 per cent by domestic growers and processors of sugar beets. It should be noted that the small share for beet sugar reflects the absence of a beet crop in Alberta in 1985. Over the period 1980 to 1984 inclusive sugar beet growers served close to 10 per cent of domestic sugar consumption or about 8 per cent of Canadian demand for all natural sweeteners.

12.2 Corn sweeteners held about 22 per cent of natural sweetener consumption in 1986. HFCS accounted in that year for an estimated seven per cent of that market. While production of this corn sweetener since 1980 has expanded greatly, domestic sales have declined since 1983 to almost 30 per cent of production and HFCS is now produced mostly for export.

12.3 Domestic sales by honey and maple syrup suppliers are less than two per cent of the natural sweetener market. Imports in 1986, chiefly of refined sugar, comprise the remaining 11 per cent.

Employment

12.4 Excluding the production of honey and maple syrup/sugar products, which is highly seasonal, total employment in the refining of cane sugar, in the growing and processing of beet sugar and in the production of corn sweeteners currently amounts to approximately 4,000 persons.

12.5 Canadian refiners of cane sugar employ 2,000 workers. Beet processing provides full-time employment for over 200 persons and seasonal employment of 3 to 4 months duration for 285, in addition to 1,100 beet growers. Corn sweetener plant employment is estimated at 675 persons.

Industrial and Household Demand

12.6 Of the total consumption of natural sweeteners industry uses about 70 per cent while the remainder is sold directly to consumers for household or institutional use. For sugar, the industrial use is slightly less than 70 per cent of total consumption. Corn sweeteners are used mostly in industry and HFCS almost exclusively so.

Dependence of Industrial Users on World Price

12.7 The bulk of natural sweeteners purchased by Canadian industry is used in the production of foods and beverages. Selling prices of soft drink, confectionery and biscuit manufacturers are those most sensitive to fluctuations in the price of sugar because natural sweeteners account on average for 6 to 7 per cent of their value of shipments. The confectionery and biscuit industries are the ones most dependent on access to natural sweeteners at prices in line with world sugar prices in order to maintain their price competitiveness against imports of high sugar content products. Although the soft drink industry is the largest sugar user its competitive position against imports is not affected by higher sugar prices, because of the franchise system.

12.8 The international competitiveness of wineries, bakeries, breakfast cereal producers, fruit and vegetable processors and miscellaneous food processors is less vulnerable to fluctuations in the price of sugar because of the lower sugar content of their products. Natural sweeteners, on average, constitute 2 to 2.5 per cent of the value of their shipments. The dairy products industry is a significant user of natural sweeteners but sweeteners make up less than 1 per cent of the selling price for the typical dairy product. Therefore, this industry's ability to compete would be impaired only marginally by a change in the cost of sugar.

Pricing Practices of Sugar Refiners and HFCS Producers

12.9 The dominant factor in determining Canadian prices of natural sweeteners is the world price of raw cane sugar. Raw cane sugar imports have generally been available to Canadian refiners at prices that permitted production of refined sugar for less than the cost of production of its main substitutes. Refined cane sugar is therefore, the main sweetener consumed in Canada. Refiners purchase their raw cane sugar requirements directly on the world market and with their extensive use of forward contracting they avoid the peak prices. However, such procedures also preclude obtaining the very low prices at the bottom of the cycle. The landed cost of imported raw sugar plus the gross refining margin determines the domestic selling price of refined cane sugar.

12.10 The domestic price of bulk refined cane sugar sets the domestic price for beet sugar since these two sweeteners are identical and are perfect substitutes for each other. Beet sugar selling prices at the factory in Manitoba and Alberta therefore tend to be equivalent to the prevailing sales price of refined cane sugar at the refinery plus the transportation cost which eastern and western refiners must incur to bring their product to the prairie market. The price of sugar is also the major determinant in the pricing of HFCS, which is normally sold at a discount from the price of sugar. The higher the price of sugar, the higher the discount can be for HFCS, and the greater the share of the market for natural sweeteners that HFCS can acquire. In the United States that discount has averaged 20 per cent for HFCS-55 and 33 per cent for HFCS-42.

Competitive Efficiency of Domestic Refiners

12.11 The competitive efficiency of Canadian sugar refiners compares favourably with that of their U.S. counterparts but the combined costs of growing and processing beets, particularly the latter, are 10 to 15 per cent higher in Canada. The U.S. beet processing industry has recently experienced the closure of several of its less efficient plants and this rationalization has lowered the industry's average processing cost. In recent years the cost of refining raw cane sugar has been approximately the same in Canada and the United States.

Competitive Problems of Sugar Beet and HFCS Industries

12.12 World sugar prices were at a record high of 74.0 Cdn.¢/kg for raw cane sugar in 1980 and declined sharply in 1981 and more slowly thereafter to a low of 12.2 Cdn.¢/kg (5.51 Cdn.¢/lb.) in 1985. Both the sugar beet and the HFCS industries had difficulties competing with these low sugar prices because their production costs were higher than the corresponding price of refined sugar. Neither the sugar beet nor the HFCS industry can compete against such low sugar prices.

CHAPTER 13: ASSESSMENT OF THE LONGER TERM ECONOMIC PROSPECTS OF DOMESTICALLY PRODUCED NATURAL SWEETENERS

Outlook for the World Sugar Price

13.1 In the long run the world price of sugar reflects the average cost of production of the world's most efficient producers. These producers are the world's major exporters and include Canada's major sources of supply, such as Australia, Cuba and Swaziland. Normally, world prices fluctuate in a regular, cyclical pattern. While the world sugar market has traditionally been one of the most volatile of all commodity markets, fluctuations in the world price of sugar during the 1970's and 1980's, in comparison with previous cycles, have been unusually large and very irregular. The run-up in the price of sugar to the highs in 1974 and 1980 was occasioned largely by the energy crisis in the earlier year and in the latter, by the pervasive inflation psychology of the late 1970's. The fundamentals of the sugar market, i.e., the normal responses of producers and consumers to changes in the price of sugar, cannot explain the full amplitude of those fluctuations. The economic signals from declining world prices to the producers of sugar cane were muted by an array of subsidy programs around the world supporting domestic sugar producers and refiners. As a result production costs of growers and refiners did not fully reflect world market conditions and the impact on world sugar production was delayed.

13.2 The decline from the 1980 peak to the very low prices in 1985 and 1986 was in part a normal market reaction but was exacerbated by the government sugar policy in both the EEC and the United States. The EEC, which had been a net importer of raw sugar prior to 1976, has become in recent years a net exporter; such exports were as much as 4.1 million tonnes in 1982 although they have moved downwards subsequently. At the same time, the effect of U.S. domestic policy has been to reduce raw sugar imports. Such imports were as high as 4.6 million tonnes in 1981 but have declined sharply to under 2 million tonnes in 1986. Since

1980, the effect of the policies pursued in the EEC and the United States, both major sugar producers/consumers, has been to increase the supplies of sugar on the world free market, thus lowering its price and magnifying the normal price downswing.

13.3 In the foreseeable future such extreme aberrations in the price of sugar, though not impossible, will be unlikely. The EEC, with increasingly unacceptable deficits in its sugar account, has already begun to cut back on its exports. The United States has recently given some indications of rethinking its sugar policy. In January 1987 the U.S. Agriculture Secretary announced that the Administration would shortly propose cuts in the price support level for sugar beets and raw cane sugar. Shortly after, the U.S. Trade Representative said that the Administration planned to cut the sugar program price supports by half over five years and that the aim would be a significant reduction of sugar cane and beet production in the United States. This policy change will be considered in the evaluation of alternative courses of Canadian action.

13.4 These developments in the EEC and the United States suggest that future price fluctuations will be less dramatic. Furthermore, because of reduced production, the average price will likely settle at a higher level. Demand for sugar in developing countries will increase because of higher per capita incomes while demand in developed countries will increase only with population growth. This moderate firming in world sugar demand may be enhanced on the supply side by reduced EEC exports and increased U.S. imports.

13.5 If the United States were to phase out its current sugar policy the demand on the world market would increase. Deregulation could be expected to reverse the developments of the last few years; in that event, U.S. domestic sugar production would decline and raw cane sugar imports would rise. As U.S. sugar prices fell there would be a resubstitution of sugar for HFCS. This would place Canadian HFCS exports to the U.S. under severe pressure. In the longer term, U.S. deregulation would help to stabilize the world price by strengthening the U.S. demand for raw cane sugar on the world market. Higher and more stable world prices would be even more likely if the EEC were to become a less significant exporter.

13.6 HFCS will remain a factor in the U.S. market with little change in market penetration being anticipated under current circumstances. However, since HFCS growth has been fostered primarily by high sugar prices, it is possible that deregulation of the U.S. sugar market would reduce the share held by HFCS. Under the current policy, HFCS is approaching its technical limit of market penetration in the United States unless a price-competitive, granular form of HFCS becomes commercially available. In the EEC, the price of HFCS has been set to equal that of the price of sugar, thus limiting demand for HFCS to 1.5 per cent of total natural sweetener demand in the EEC.

13.7 Submissions on behalf of growers in Belize, Cuba, Fiji, Malawi, Mauritius, Swaziland and Zimbabwe indicated that their costs of production for raw sugar were less than 12 Cdn.¢/lb. The Australian producers' representative stated that their costs were such that their "entire industry could survive without any trouble" at a selling price of between 9 and 11 cents U.S. (equivalent to 12.5 to 15.3 cents Cdn.); it was further noted that the more efficient Australian producers would remain viable at a world price of 7 U.S.¢/lb. These figures for production costs also appear to be supported by the study prepared by Landell Mills Commodity Services, which formed part of the confidential submission of CASCO. This study dealt with production costs in the main sugar producing countries. The figures in the study indicate that the production cost, of raw cane sugar in Australia, Brazil, Cuba, the Dominican Republic, Fiji, South Africa, Swaziland and Zimbabwe averaged about 12.5 Cdn.¢/lb. in 1986. Further, it is clear that, among world producers, the main sugar exporters have production costs which are greatly below the world average.

13.8 If the world market unfolds as described above, world sugar prices will gradually rise. Some firming of price is already taking place; the price of sugar per pound on the New York Commodity Exchange has already risen from 6 cents since August, 1986 to 8 cents (11.1 Cdn.¢/lb.) as of February, 1987. The world sugar price is unlikely to fluctuate as much it has as in the past 15 years as major distortions in the market will become less frequent and less severe. Prices will therefore tend to reflect more closely the cost of production of the world's most efficient cane producers, which are Canada's main suppliers.

13.9 On all of the evidence, the Board concludes that in the near and foreseeable future the world price of raw cane sugar will average at or near 12 Cdn.¢/lb.

Prospects for the Canadian Natural Sweetener Industry

Competitive Pressure on HFCS

13.10 A world price of raw sugar of 12 Cdn.¢/lb. would have a significant effect on the Canadian natural sweetener industry, especially on the competitive position of HFCS as against sugar, and of sugar beet as against imported raw sugar. The higher price of refined cane sugar will result in higher prices for beet sugar and will in turn improve the cash return to beet growers. Higher sugar prices will also lead to an improved competitive position for HFCS in the domestic natural sweetener market. The result would therefore be a reduction in the competitive pressure of recent years on the sole Canadian HFCS producer but competitive pressure would continue for sugar beet growers.

13.11 With raw sugar at 12 Cdn.¢/lb., f.o.b. country of export, the price of refined sugar delivered at Chatham, Ontario, would be 55.2 ¢/kg (see Table 13.1). Production of HFCS 42 at that price would be profitable, according to confidential data. The difference between the price of refined sugar and the cost of producing HFCS would permit a discount of as much as 30 per cent off the price of refined sugar. An increase in the price of corn from its current low levels would reduce this discount. However, production of HFCS would still be viable with a discount of 20 per cent if corn prices were to return to the higher levels of 1983-84.

TABLE 13.1: THE PRICE OF HFCS (42) WHEN RAW CANE SUGAR IS PRICED AT 12 CENTS CANADIAN, PER POUND, F.O.B. CARIBBEAN

	¢/kg
Raw sugar at 12 Cdn.¢/lb.	26.5
Add: C.I.F. costs (Montreal)	5.3
Refining loss of 8%	2.5
Refining margin (1980-84 average)	18.9
Transportation cost to Chatham, Ontario	2.0
Price of refined sugar	55.2[a]
Less discount of 25%	13.8
Equivalent HFCS price	41.4

(a) Does not include the proceeds from the sale of by-products.

13.12 With raw sugar at 12 ¢/lb. there would be little or no effect on the total domestic demand for sweeteners. Domestic consumption of artificial sweeteners will continue to expand as they become more price competitive and as the food and beverage industries develop new products using such sweeteners. Natural sweetener demand will continue to increase somewhat with population growth despite some decline in per capita consumption.

13.13 At that price, HFCS penetration of the domestic natural sweetener market would increase rapidly to a 25 per cent market share on the way to CASCO's target of 36 per cent share of the domestic natural sweetener market.(1) This would raise HFCS demand in Canada from 106,400 tonnes in 1986 to CASCO's current production capacity of 360,000 tonnes, on the way to its domestic target of 525,000 tonnes. In that case, the additional 420,000 tonnes of HFCS consumed in Canada could be produced in Canada which could create approximately 300 new jobs. This could result in an increase in demand of an additional 520,000 tonnes of corn.

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(1) *Transcript* of Public Hearing, December 3, 1986, Volume 2, p. 249, Lines 2 and 3.

13.14 If U.S. sugar policy is not changed, it can be expected that Canadian HFCS will continue to be sold in the U.S. northeastern market and that Canada will maintain the full benefit of the increased demand of an addition at 420,000 tonnes.

13.15 On the other hand, if the U.S. sugar market is deregulated, as discussed in Section II, there would be pressure on Canadian HFCS exports to the United States as HFCS producers in that country attempt to capture the whole of their domestic market. CASCO would then have to sell its current export production in Canada. That should be possible because CASCO's total HFCS output represents about 25 per cent of the domestic market for natural sweeteners, of which only 7 per cent now consists of HFCS. In that event, HFCS production would increase by 165,000 tonnes, creating an additional 115 jobs.

13.16 In either event, Canadian corn growers would benefit from increased sales of corn to the domestic HFCS industry and from a consequent increase in the price of grain corn, the degree of benefit depending on the extent of U.S. deregulation. If HFCS export sales are maintained, an additional 520,000 tonnes of corn would be required. The recent price of approximately $90 per tonne would indicate a farm gate value of about $47 million. If export sales are lost and the domestic producer supplies the Canadian market only, HFCS use of corn could increase by 205,000 tonnes with a current value of $18 million.

Competitive Pressure on the Sugar Beet Industry

13.17 The price of refined beet sugar corresponding to 12 cents raw sugar would be 60.4 ¢/kg (see Table 13.2), or $604 per tonne. Under the terms of the new 1986 contract between processor and grower, payment to the grower is based on the bulk return from the sale of refined beet sugar.

TABLE 13.2: THE PRICE OF REFINED BEET SUGAR WHEN RAW CANE SUGAR IS PRICED AT 12 CENTS CANADIAN, PER POUND, F.O.B. CARIBBEAN

	¢/kg
Raw sugar at 12 Cdn.¢/lb.	26.5
Add: C.I.F. costs (Montreal)	5.3
Refining loss of 8%	2.5
Refining margin (1980-84 average)	18.9
Transportation cost to Prairies	7.2
Equivalent price of refined beet sugar	60.4

The bulk return is the gross return minus the cost of packaging (package differential). The package differential is substracted from the gross return, because packaging costs are entirely paid for by the processor. The bulk return is shared between the processor and the grower on the basis of their contract. Under the contract, approximately 90 per cent of any increase in the bulk return will be passed on to the grower, thus increasing his share. With raw sugar prices at 12 Cdn.¢/lb., the payment to growers would be equivalent, after adjustment for transportation costs, to $25.90 per tonne of sugar beets in Manitoba and $26.02 per tonne in Alberta (see Table 13.3).

13.18 With the average costs of production per standard tonne of $42.26 for Manitoba and $37.43 for Alberta,(1) clearly the proceeds to beet growers fail to cover total growing costs. The difference would be $16.36 per tonne for Manitoba growers and $11.41 per tonne for Alberta growers. The total deficiency, assuming production at 1986 levels, would be $5.7 million and $6.8 million for those provinces respectively, a total of $12.5 million per year necessary to cover all growing costs.

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(1) Based on cost data submitted by the Canadian Beet Producers' Association (See Table 4.7).

TABLE 13.3: PAYMENT TO SUGAR BEET GROWERS WHEN THE PRICE OF REFINED BEET SUGAR IS EQUIVALENT TO RAW CANE SUGAR PRICED AT 12 CENTS CANADIAN, PER POUND, F.O.B. CARIBBEAN; MANITOBA AND ALBERTA

	Manitoba	Alberta
	- $/tonne sugar -	
Gross Return:	604.00	604.00
less: Package differentials	55.00	70.00
Bulk Return:	549.00	534.00
Grower's Share:	239.20	227.20
	- $/tonne beets -	
Equivalent to:	29.90	28.40
less: Transportation costs to factory	4.00	2.38
Grower's Payment:	25.90	26.02

Source: Tariff Board.

13.19 Increased HFCS consumption could reduce domestic sugar consumption, including cane and beet, by as much as 420,000 tonnes or 40 per cent, if raw sugar cane is priced at 12 ¢/lb. That drop in consumption would result in a reduction of about 40,000 tonnes in the market for sugar processed from sugar beets.

Conclusions Regarding the Longer Term Economic Prospects

13.20 The Board concludes that future market conditions will result in a more stable price for raw cane sugar than has prevailed since the early 1970's and that the average price will be in the range of 12 Cdn.¢/lb., f.o.b. country of export.

For HFCS

13.21 At the price for refined sugar corresponding to 12¢ raw sugar, domestic production of HFCS will be profitable. In the years when the price of refined sugar is below that figure, competitive pressures will re-emerge for HFCS. However, that will be offset by more profitable HFCS operations in years when the price of refined sugar is above that corresponding to raw sugar priced at 12 Cdn.¢/lb.

For Sugar Beets

13.22 Competitive pressures on the domestic sugar beet industry will be significant with a world price for raw cane sugar of 12 Cdn.¢/lb. because the price of refined sugar in the Prairie market will not be high enough to cover the total growing costs of sugar beet producers.

CHAPTER 14: THE SCOPE FOR POSSIBLE GOVERNMENT ACTION

Introduction

14.1 The Board, having concluded that market conditions will continue to put competitive pressures on the domestic sugar beet industry into the foreseeable future, examines in this Chapter the scope for possible government action to assist that industry. Courses of action are set out together with their expected effects on the competitive position of cane sugar refiners, HFCS producers and industrial users of natural sweetening agents, on overall employment, on the cost to consumers, on possible expenditure implications for the Government and on Canada's commitments under international trade agreements.

14.2 The present Canadian policy is to allow unrestricted competition between the various natural sweeteners in the domestic market by unrestricted access to raw cane sugar at world prices. Raw cane sugar is imported without any restrictions as to quantity and with only a minimal tariff affecting its price, and there are no government controls on the domestic production or pricing of refined sugar or any other natural sweetener. This can be called a free market policy. It has resulted in Canada having one of the lowest domestic prices for refined sugar in the western world during the postwar period. The world free market price for cane sugar is the major determinant of the domestic price of refined cane sugar and of its main substitutes - beet sugar and HFCS. Domestic sugar refiners and producers of HFCS and other corn sweeteners have only modest tariff protection against foreign competitors and there are no non-tariff barriers. Nor are exports of natural sweeteners assisted by subsidies.

14.3 Before examining the scope for possible government action, it is essential to establish the dimensions of the problem, that is, the precise extent to which the competitive pressures impinge on the viability of the domestic sugar beet industry.

14.4 A review of the key facts is in order. The first is that the domestic sugar beet industry accounts for 8 per cent of the natural sweetener market. A second fact is that at the foreseeable world price of 12 Cdn.¢/lb. there is a shortfall in the returns to sugar beet growers. Table 4.11 shows that during the period 1980-86 the cost of subsidizing sugar beet production has averaged approximately $7 million for the years in which stabilization payments were made. Paragraph 13.17 establishes that, with the price of refined sugar corresponding to a price of raw sugar of 12 Cdn.¢/lb., grower receipts would fall short of meeting total growing costs by $12.5 million per year. This figure is to be compared with the $35 million annual value of sugar beet production and with an annual natural sweetener market of approximately $650 million. Imports of raw sugar feedstock and of fully processed natural sweeteners account for over 70 per cent of domestic natural sweetener consumption, with only beet sugar, HFCS and glucose, and honey and maple sugar and syrup being produced from local feedstocks and raw materials. These fundamental Canadian facts as to the proportions of domestic and imported feedstock are quite different from the particular situations in each of the three principal sugar consuming areas of the world's free market, the United States, Japan and the European Economic Community. Their sugar environments have led their authorities to embark on a wide range of subsidies, taxes, and quotas for import and domestic production, etc.

14.5 The courses of action considered in this chapter will be assessed against the impact on the domestic natural sweetener industry of a world free market price for raw cane sugar expected, over the long term, to be fairly stable at an average at or near 12 Cdn.¢/lb. f.o.b. country of export. Should the average cost of production of the world's most efficient producers, and therefore world sugar prices average less than 12¢/lb., the reduction in competitive pressure and improvement in profitability of HFCS has been overstated. On the other hand if the production cost and the price of raw sugar are higher than 12¢/lb., then the profitability of HFCS and the competitive pressure on the sugar beet industry have been understated.

14.6 This Chapter presents the alternative courses of action which can assist the sugar beet industry in coping with the fluctuations in the world free market price of raw cane sugar. The following courses of action are analyzed below:

1. Procurement agency
2. Minimum Price Policy
   - i) a floor price of 18 Cdn.¢/lb.
   - ii) a floor price of 12 Cdn.¢/lb.
3. Stabilization Program
   - i) The Agricultural Stabilization Act
   - ii) National Tripartite Stabilization Program
   - iii) Full-cost stabilization
4. Buy-out of Sugar Beet Growers

1. PROCUREMENT AGENCY

14.7 The purpose of a sugar procurement agency would be to purchase the feedstock required for the production of refined sugar and resell it to refiners and processors at a price that would provide domestic market stability. The primary purpose of such an agency would be to establish a price of raw cane sugar feedstock to the refiner that would result in a stable price being paid to beet growers on their sales to processors which would relieve the competitive pressure on the growers while allowing the processors to compete with sugar refiners.

14.8 While the purpose of the procurement agency as proposed by Canadian Sugar Beet Producers' Association, the Ontario Corn Producers' Association and CASCO would be to resell the raw cane sugar at 18 Cdn.¢/lb., f.o.b. country of export, and sugar beets at an equivalent price having regard to its refined result, the advantages and disadvantages of such an agency can and should be considered without regard to the particular price level it would administer and adjust.

This control of the resale price of raw cane sugar feedstock would suffice to control the sale price of sugar beets to the processor because of the direct price correlation, without having to buy sugar beets for resale.

14.9 Control of imported sugar feedstocks may not be enough to prevent a loss of market share by domestic producers of natural sweeteners if there is a significant differential between the world price of sugar and the price at which the feedstock is made available to refiners. Such a differential would result in higher imports of refined sugar, corn sweeteners and products containing natural sweeteners. At the present time export rebates in the U.S. and EEC on sweetened products could lead to substantial market erosion, even though the minimum price in Canada might at certain levels result in lower comparable prices for natural sweeteners in Canada than in the US and the EEC.

14.10 Import competition would also increase if the Canadian floor price and Agency were to be introduced at a time when the United States is moving toward deregulation. This would reverse the aforementioned Canadian price advantage and would probably result in large importations of cheaper U.S. refined sugar, HFCS and sweetener-containing products. Any benefits from the creation of a procurement agency at a time when the price differential is significant would not be realized unless the Agency's mandate were expanded to cover the importation and marketing of all natural sweeteners and all products containing them.

14.11 Canada's commitment under the General Agreement on Tariffs and Trade (GATT) in regard to such an agency is that "such enterprise ... act in a manner consistent with the general principles of non-discriminatory treatment prescribed in this Agreement for governmental measures affecting imports or exports by private traders" (Article XVII).

i) The Agricultural Products Board

14.12 The Agricultural Products Board established under the Agricultural Products Board Act, R.S.C. 1970, c.A-5, has broad authority to buy, sell, or import agricultural products. It deals with matters ancillary to price support operations which do not come specifically under the authority of the Agricultural Stabilization Act. Funds for the Board's purchase operations are provided through specific appropriations for this purpose, with revenue from sales of products being credited directly to the Consolidated Revenue Fund.

14.13 The prime purpose of the Board is to act quickly to remove surplus domestic product from the market so that the cost to the taxpayer is usually much less than a general stabilization program provided after the marketing season on all the production sold. The problem with respect to sugar beets is not that their production is surplus but rather that it is in competition with the current low price of imported cane sugar feedstock. To address that problem by controlling the price of such feedstock to refiners the Board would have to be given the exclusive authority to purchase all imported feedstock and resell it to refiners at prices that would allow producers of sugar beets to cover their growing costs.

ii) Surtax

14.14 Under section 8 of the Customs Tariff, it would be possible to achieve any desired floor price for raw sugar feedstock through the application of a surtax on imports. As described below in the assessment of the 18 ¢/lb. and 12 ¢/lb. minimum floor prices, the higher import price for raw cane sugar can be converted to the corresponding price of sugar beets based on their sugar content.

14.15 While this system would be relatively easy to administer it would result in the payment by Canada of compensation under the GATT. For that reason the surtax alternative was not pursued by the sugar beet growers.

2. MINIMUM PRICE POLICY

14.16 The analysis below deals with minimum prices for raw sugar, at 96° polarity, of 18 Cdn.¢/lb., and of 12 Cdn.¢/lb., f.o.b. country of origin. Other minimum price levels could have been examined as well, but these were proposed by the domestic sugar beet industry. A minimum price of 12 Cdn. ¢/ lb. is different from a forecast of the world price of raw sugar averaging at or near 12 Cdn.¢/lb. A forecast recognizes that there will be years when raw sugar prices will be higher and years when they will be lower than 12 Cdn.¢/lb. With a 12¢ floor price domestic refiners must pay that much or more for their raw sugar and never less. Similarly, the domestic price of cane and beet sugar and of HFCS, and hence their price competitiveness and profitability, will fluctuate in accordance with changes in the price of raw sugar below 12 Cdn.¢/lb. as well as above. Fluctuations in domestic prices of natural sweeteners are confined to those corresponding to raw sugar above 12¢ with a minimum price.

i) A Floor Price of 18 Cdn.¢/lb.

14.17 The Canadian Sugar Beet Producers' Association had originally recommended to the Department of Finance a minimum floor price of 25 Cdn.¢/lb. for imported raw cane sugar and this was discussed in the Board's Statistical Background Paper of August 19, 1986. However in its submission to the December public hearing the Association proposed instead, a floor price for raw sugar of 18 Cdn.¢/lb., f.o.b. country of export. This minimum price was supported also by the Ontario Corn Producers' Association and by CASCO. In January, 1987 the Canadian Sugar Beet Producers' Association proposed, in a post-hearing submission that the minimum price should be based on a value equivalent to the average cost of producing raw cane sugar by the most efficient producers. The Association calculated this at 18 Cdn.¢/lb., f.o.b. country of export. However, evidence suggests that this average is at or near 12 Cdn.¢/lb.

14.18 A floor price of 18 Cdn.¢/lb., f.o.b. point of export, for raw sugar at 96° polarity, would raise the price level of all natural sweeteners in the domestic market above the level that would otherwise prevail. Compared to sweetener prices with a world price for raw sugar at 12 Cdn.¢/lb., f.o.b. point of export, the price of refined cane sugar delivered in Winnipeg and of refined beet sugar would increase from 60.4 ¢/kg to 74.7 ¢/kg, an increase of 14.3 ¢/kg or 23.7 per cent.

(a) Impact on HFCS Producers

14.19 Compared to HFCS prices equivalent to 12¢ sugar, HFCS production would be very profitable at prices equivalent to 18¢ sugar. HFCS prices with a discount of 25 per cent off the price of sugar would go up by 10.7 ¢/kg, from 41.4 ¢ to 52.1 ¢/kg, an increase of 25.8 per cent. HFCS producers could offer HFCS products at an even greater discount than 25 per cent off the price of sugar and still be profitable. The competitive pressure from HFCS on sugar would intensify and HFCS would raise its penetration of the natural sweetener market towards CASCO's forecast of 36 per cent more assuredly and more quickly than with 12¢ raw sugar.

TABLE 14.1: THE PRICE OF HFCS(42) WHEN RAW CANE SUGAR IS PRICED AT 18 CENTS CANADIAN PER POUND, F.O.B. CARIBBEAN

	¢/kg
Raw sugar at 18 ¢/lb.	39.7
Add: C.I.F. costs (Montreal)	5.3
Refining loss of 8%	3.6
Refining margin (1980-84 average)	18.9
Transportation cost to Chatham, Ontario	2.0
Price of refined sugar	69.5
Less discount of 25%[a]	17.4
Equivalent HFCS price	52.1

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[a] Any discount of less than 25% would make HFCS production even more profitable.

14.20 The domestic market for HFCS could increase from 106,400 tonnes in 1986 to 525,000 tonnes i.e., by 420,000 tonnes. If present HFCS exports to the United States were to be maintained and the additional demand were met from domestic production, a doubling of Canadian capacity would be required and employment in HFCS production could increase by 300 new jobs.

14.21 Under a scenario where the United States would dismantle its sugar policy and Canadian HFCS exports to that country would cease, only 165,000 tonnes of new HFCS production with 115 new jobs could result. However, should the demand for HFCS in Western Canada be supplied from U.S. sources, a distinct possibility, current Canadian HFCS production would change very little.

(b) Impact on Corn Growers

14.22 As production of HFCS increased so would the volume of corn used. If all the corn milled for HFCS were to continue to be locally grown, a floor price of 18 Cdn.¢/lb. would require a further 520,000 tonnes of corn if current HFCS exports were continued. Demand for local corn would rise by only 205,000 tonnes if present exports of HFCS were lost. Farm cash income from corn would increase by $47 million in the first instance and by $18 million in the second. (See also Chapter 13).

(c) Impact on Sugar Refiners and Processors

— Western Sugar Refiners and Processors

14.23 Production of sugar in Western Canada could decline by 100,000 tonnes, the volume of sugar that would be displaced by HFCS as the latter gains 36 per cent of the region's sugar consumption estimated at 275,000 tonnes in 1986. Demand for sugar and sugar output in British Columbia could decline by 40,000 tonnes, and in the three Prairie Provinces by the remaining 60,000 tonnes. If sales of beet sugar only are affected, beet sugar production would decline from 100,000 tonnes to 40,000 tonnes. Alternately, if the drop in sugar consumption is confined to sales of cane sugar, the remaining market of some 100,000 tonnes would be supplied by beet sugar. The actual reaction to HFCS market penetration would depend on the corporate policy of B.C. Sugar Company, the operator of the single cane sugar refinery and of the two beet factories in Western Canada.

14.24 One option for B.C. Sugar Company would be to close the Taber factory. Sugar production in Winnipeg might be maintained or even increased and could be used to impede penetration of the Prairie market by Lantic and/or Redpath and/or imported sugar. Part of the market currently supplied by beet sugar from Taber could be met with cane sugar from the Vancouver refinery which might be packaged in Taber. This solution would be similar to the situation in 1985/86 when no beets were grown in Alberta.

14.25 A second option would be to close the Winnipeg factory.(1) The Taber factory has a larger capacity and therefore may have a lower average cost per kilogram of sugar. It is possible that adoption of this option might result in increased beet sugar production in Taber. However, it would have to be assumed that a significant proportion of the eastern prairie sugar market would be taken over by central Canadian refiners and/or by imports from the United States because of transportation costs.

14.26 A third option for B.C. Sugar Company would be to close both the Winnipeg and Taber beet sugar factories. This situation might arise where both the B.C. and western Prairie sugar markets were required to keep the Vancouver refinery operating at an efficient production level if the Winnipeg factory was not independently viable when operating at less than optimal capacity.

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(1) Refer to paragraph 14.54

14.27 The fourth option would be the closure of the Vancouver cane sugar refinery and the expansion of beet sugar operations. The regional demand for sugar would require the production of an additional 70 to 80 thousand tonnes of beet sugar. In this event, the present beet capacity would have to be increased or a third beet factory would have to be built.

— The Maritime Sugar Refiner

14.28 With a minimum raw sugar price of 18 Cdn.¢/lb., f.o.b. country of export, the anticipated market penetration by HFCS in the foreseeable future, without a change in sugar policy, would take place sooner. The equivalent prices of refined sugar, f.o.b. Saint John refinery, would be 67.5 ¢/kg and for HFCS, at a 25 per cent discount, 52.1 ¢/kg. The penetration of HFCS as forecast by CASCO would result in a 36 per cent decline in the demand for sugar or about 30,000 tonnes in the Maritimes.

14.29 If the reduction in Ontario-Quebec sugar consumption were to result in reduced shipments by the Saint John refinery to that market in the same proportion as other refiners, the Saint John refinery could suffer a further decline of 50,000 tonnes. Thus, the total market loss by the Saint John refinery could total 80,000 tonnes or 33 per cent of capacity. The continued operation of the Saint John refinery would depend on the economics of running this facility at two-thirds below capacity at a time when Lantic Sugar's two other refineries would also be under-utilized. During the inquiry, Lantic suggested that such a reduction would result in the closure of the Saint John refinery.

— Ontario and Quebec Sugar Refiners

14.30 With raw sugar at 18¢, Ontario and Quebec sugar consumption would decline as a result of increased HFCS market share by an estimated 300,000 tonnes of which 50,000 tonnes would be lost by the Saint John refinery. The other 250,000 tonnes of sugar sales lost to HFCS, a third of current sugar demand in the central region, would accrue to the three regional refineries. It is likely that Lantic Sugar, with two refineries in this region in addition to its Saint John facility, would face the largest adjustment to the 18¢ floor price. If Redpath were to keep its present volume of sales, Lantic might close the smaller Oshawa plant, which would still leave unused capacity in its two remaining plants. Alternately, Lantic could close the Saint John refinery and supply the Atlantic region's requirements from its Montreal refinery. On the evidence the latter is more probable.

(d) Impact on Sugar Beet Growers

14.31 As noted earlier, the price of beet sugar (gross return) would be 74.7 ¢/kg, or $747 per tonne, (See Table 14.2) when the minimum floor price of raw sugar is 18 Cdn.¢/lb.

TABLE 14.2: THE PRICE OF REFINED BEET SUGAR WHEN RAW CANE SUGAR IS PRICED AT 18 CENTS CANADIAN PER POUND, F.O.B. CARIBBEAN

	¢/kg
Raw sugar at 18¢/lb.	39.7
Add: C.I.F. costs (Montreal)	5.3
Refining loss of 8%	3.6
Refining margin (1980-84 average)	18.9
Transportation cost to the Prairies	7.2
Equivalent price of refined beet sugar	74.7

As shown in Table 14.3, the grower's share in Manitoba and Alberta would be $368 and $354 per tonne of sugar respectively. This would be equivalent, after adjustment for transportation costs, to gross receipts of $41.98 and $41.91 per tonne of beets. A floor price of 18¢ would clearly be sufficient to cover total growing costs of $37.43 per tonne in Alberta and would match growing costs of $42.26 in Manitoba.(1)

TABLE 14.3: PAYMENT TO SUGAR BEET GROWERS WHEN THE PRICE OF REFINED BEET SUGAR IS EQUIVALENT TO RAW CANE SUGAR PRICED AT 18 CENTS CANADIAN PER POUND, F.O.B. CARIBBEAN; MANITOBA AND ALBERTA

	Manitoba	Alberta
	- $/tonne sugar -	
Gross Return:	747.00	747.00
less: Package differentials	55.00	70.00
Bulk Return:	692.00	677.00
Grower's Share:	367.83	354.32
	- $/tonne beets -	
Equivalent to:	45.98	44.29
less: Transportation costs to factory	4.00	2.38
Grower's Payment:	41.98	41.91

Source: Tariff Board

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(1) Based on cost data submitted by the Canadian Beet Producers' Association (see Table 4.7).

14.32 The foregoing analysis shows that both with an average world sugar price of 12 Cdn.¢/lb. and a floor price of 18 Cdn.¢/lb., demand for sugar in the Prairie provinces would decline substantially as a result of HFCS substitution. The only scenario which precludes a decline in beet sugar production would be if reduced sugar demand affects only cane sugar sales in Western Canada, an unlikely development. Otherwise the decline in beet production could range from 40,000 tonnes to the loss of the entire output, depending on whether the processor chooses to close one or both sugar factories or whether the decline in beet production would be apportioned between them.

14.33 A floor price of 18¢ would raise the average price received by beet growers, in Manitoba and Alberta combined, to $41.95 per tonne, as compared to $25.98 per tonne with 12¢ raw sugar. If processors were to reduce their intake of sugar beets by 330,000 tonnes, growers' cash income would decline by $13.8 million. At the same time there would be an increase in farm income of $9.9 million as a result of higher beet prices for the remaining output. Overall, there could be a net decline in farm income of about $3.9 million, if raw sugar were priced at 18 Cdn.¢/lb., and $39.8 million, if all beet production were to cease.

(e) Impact on Industrial Users

14.34 The assessment of the 18¢ minimum floor price reveals that the equivalent price of refined sugar would be almost 25 per cent higher than the price corresponding to raw sugar at 12¢. Even if the entire increase in the cost of refined sugar were passed on by industrial users to Canadian consumers, the increase in the manufacturer's average selling price would be minimal. The average factory selling price of the total production of carbonated beverages, biscuits and confectionery would not increase by more than 1.75 per cent. Increases in the average selling prices of all the other leading industrial users of natural sweeteners need not be more than an estimated 0.6 per cent. Overall, the inflationary impact of an 18 Cdn.¢/lb. floor price for raw sugar, as compared with a 12¢ price, would be negligible.(1)

14.35 It is recognized that for specific products containing sugar in amounts well above the current averages shown in Table 6.4, the inflationary impact of a price increase for refined sugar would be substantial and sales would be adversely affected. However, industrial users could avoid this increase in the cost of sugar by switching to HFCS. It is estimated that the domestic price of refined sugar in Ontario would be 55 Cdn. ¢/kg with 12¢ sugar, and 69 Cdn. ¢/kg with 18 ¢ raw sugar. HFCS would cost 52 Cdn. ¢/kg. This substitution would not be available to chocolate confectioners who must use sugar.

(f) Impact on Consumers

14.36 The increase in domestic prices of natural sweeteners resulting from the establishment of a minimum price for raw sugar of 18 Cdn./¢, f.o.b. country of export, could cost as much as an additional $177 million at the refinery. The volume of sugar and corn sweeteners used in this calculation takes into account the expansion in HFCS consumption and the corresponding decline in the domestic use of sugar. The additional cost to consumers occasioned by wholesale and retail markups could increase the cost to consumers by a further $68 million. Thus, compared with a raw sugar price of 12¢, as foreseen with a continuation of current policy, a floor price of 18¢ could cost Canadian consumers up to $245 million. This figure must be considered in the light of a total consumer expenditure of $42 billion for all food and beverage products.

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(1) See Table 6.7.

(g) Impact on Employment

14.37 A minimum price of 18 Cdn./¢, f.o.b. country of export, for raw cane sugar could result in an increase in domestic output of HFCS of 420,000 tonnes if present export markets were retained. This would create some 300 new jobs in domestic HFCS production. The more likely result would be the loss of the export market in which case additional output would be in the order of only 165,000 tonnes and the creation of some 115 new jobs.

14.38 The sugar refining industry, at an 18 Cdn.¢/lb. floor price, would likely reduce production of refined sugar by 380,000 tonnes. This could result in a loss of 600 permanent jobs in sugar refining in Canada. However, some reduction in output and employment may also occur under the present policy when sugar reaches 12 Cdn.¢/lb.

14.39 While the above reduction, which represents about a third of total refining capacity, might be spread evenly throughout the refining industry, it is more likely to result in the closing of two or three plants. This could include the closure of one or both beet sugar factories, as discussed above, with a layoff of as many as 200 permanent employees and 285 seasonal workers. Concern about the future of the Saint John refinery would appear justified and could involve the direct loss of 400 jobs.

14.40 The increase in the average selling price of products containing natural sweeteners, resulting from higher prices of natural sweeteners caused by the minimum price policy, is approximately 1 per cent.(1) The impact on employment in those industries using natural sweeteners would be relatively small, in the order of 1 per cent of total employment. However, the number of jobs affected, 1,270, would exceed the total direct job losses in sugar production.

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(1) Evidence presented by Canadian Confectionery Manufacturers Association.

(h) Impact on Government

14.41 Government revenues from duties collected on imported raw sugar would decline by $0.6 million as imports of raw sugar decrease by 410,000 tonnes. However, if the increase in the price of raw sugar from 12 to 18 Cdn.¢/lb. is realized by the trading activities of the Procurement Agency, and is remitted to the Receiver-General, government revenues would on average increase by $89.5 million per year.

ii) A Floor Price of 12 Cdn.¢/lb.

(a) Impact on HFCS Producers

14.42 The assessment of the future prospects of the domestic natural sweetener industry indicates that it could be expected that the world price of raw sugar would average at or near 12 Cdn. ¢/lb. HFCS could sell at a discount of 25 per cent off the corresponding price of refined sugar at 41.4 ¢/kg, at which price, with the addition of by-product credits, HFCS production would be profitable. However, it is noted that this improvement may not be immediate. The domestic price of HFCS will continue to be depressed while world cane growers adjust to the loss of traditional markets in the EEC and the United States. Furthermore, a U.S. decision to deregulate their domestic industry would put pressure on CASCO's HFCS exports to the United States, although deregulation would contribute to a firming in world sugar prices. The establishment of a minimum price of 12 Cdn.¢/lb., for raw sugar would result in a more rapid and a more certain growth in the demand for HFCS. The only real difference between the 18¢ and 12¢ floor price with respect to HFCS is that at the lower price net profit to HFCS production would be $56 million less than it would be at the higher minimum price.

(b) Impact on Corn Growers

14.43 The impact on corn growers would be generally the same at a minimum price of 12¢/lb as at one of 18¢/lb. There could be an increase in the demand for corn ranging from 205,000 to 520,000 tonnes, the actual amount depending on the volume of HFCS exports to the United States.

(c) Impact on Sugar Refiners and Processors

14.44 The impact on sugar refiners and processors of a 12¢ floor price would result in a loss of 36 per cent of the natural sweetener market with all the adverse implications of such a decline on capacity utilization, output, employment, and plant closures, as discussed previously.

(d) Impact on Sugar Beet Growers

14.45 A floor price of 12¢ would mean that sugar beet growers would on average, based on 1986 beet production and the terms of the new contract receive from processors total payments of some $12.5 million below their annual average total cost of producing the crop. This suggests that with a 12¢ minimum price, growing sugar beets would not be viable and would not provide sufficient support by itself unless support were provided by a deficiency payment.

(e) Impact on Industrial Users

14.46 The impact on the industrial users would be much less significant than in the case of the 18¢ floor price. There would, however, be some impact on the users in any year when the average world price for raw cane sugar was below 12 Cdn.¢/lb.

(f) Impact on Consumers

14.47 As in the case of the industrial users, the impact of a 12¢ floor price on consumers would be very small as it is anticipated that without a floor price raw sugar will average at or near 12 Cdn.¢/lb., the approximate cost of production of the most efficient producers.

(g) Impact on Employment

14.48 As noted, a 12¢ floor price will result eventually in the same substitution of HFCS for sugar as would an 18¢ floor price. However, since there are only minimal costs to the industrial users and consumers, the only employment losses with a 12¢ floor price would be those identified in the sugar refining and sugar beet production sectors of the industry. HFCS would gain 115 new jobs, sugar refining would lose 600 jobs and sugar beet production would lose as many as 285 seasonal jobs.

(h) Impact on Government

14.49 A 12¢ floor price would have no direct impact on the government unless it were to decide to cover in whole or part the annual average total cost deficiency of $12.5 million incurred by the sugar beet growers.

3. STABILIZATION PROGRAM

14.50 The alternative to a minimum price is to maintain the current policy of providing unhindered access to the world free market for raw cane sugar and to resolve the problem of inadequate returns to sugar beet growers, when the world price of raw cane sugar is low, by means of direct payments.

14.51 A stabilization program is one that provides for payments to the sugar beet industry that would assure stability of income in relation to costs. The sugar beet growers incur cash costs and non-cash costs as detailed earlier. The main source of income instability for the growers is the variation in the world free market price of raw cane sugar feedstock to the refiners with whom the sugar beet processors must compete in the domestic market for refined sugar. The principal criticism by the sugar beet growers has been that the existing stabilization programs involving support payments to the growers have not provided for automatic annual payments they could rely upon to cover their costs to their satisfaction. The costs of both the sugar beet growers and the sole processor, as well as the selling price of the refined product, in the local market, differ between the two sugar beet growing provinces, Alberta and Manitoba. The support payments to both the growers and the processor, or to either of these, would take into account the differences in their costs.

14.52 Deficiency payments in support of full production costs could become a production incentive for some crops but would not be a concern in this instance. There are only two sugar factories serving present beet growers and the present slicing capacity is fully utilized. Investment in additional capacity is unlikely, particularly in a market which is likely to experience considerable market penetration by HFCS in the foreseeable future. In any event, support payments would only be made to growers with whom the processor has concluded a contract for the growing season. Furthermore, the demand of sugar on the prairies will be relatively stable.

i) The Agricultural Stabilization Act

14.53 The Agricultural Stabilization Act (ASA) names or identifies specifically the agricultural commodities automatically considered for support. Those not named may be so designated for the purposes of the Act. Designation must, however, be requested by producers and is considered by the Governor In Council on a year to year basis. Sugar beets are not a "named" commodity but have been a "designated" commodity in some years. Therefore, annual consideration of support is not automatic and deficiency payments are calculated on the basis of cash costs and not the total costs of growing sugar beets. Growers received support payments in 1981, 1982, 1985 and 1986 but not in 1980, 1983 and 1984. Total cash and non-cash costs of both Manitoba and Alberta growers were covered by the price received from beet processors only in 1980 when world sugar prices peaked. In 1981, payments from the processor may have matched total growing costs in Alberta but not in Manitoba. In all other years, market returns failed to meet total costs and frequently not even cash costs. Stabilization payments in 1981 and 1982 were in support of non-cash costs as the price received from the processor was more than that sufficient to cover cash costs. In 1985, deficiency payments to Manitoba growers did not cover cash costs.

ii) National Tripartite Stabilization Program

14.54 The Federal Department of Agriculture has developed, to replace the existing system of unilateral federal financial support of stabilization payments, a series of tripartite stabilization programs for various agricultural commodities. On April 2, 1987, the Federal Department announced that it had negotiated a national tripartite price stabilization program for sugar beets with the Province of Alberta and with the Alberta Sugar Beet Producers' Association. At the same time it was announced that the government of Manitoba was not prepared to enter into a tripartite agreement at that time.(1)

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(1) On April 10, 1987, Mr. David Elliott, General Manager of the Manitoba Sugar Company, announced that the Company will permanently lay off 73 of its 93 employees on July 10, 1987 and that the balance of the staff will be retained to operate a packaging and warehousing facility.

Objectives

14.55 A national tripartite price stabilization program for agricultural products would be based on the following principles:(1)

a) that all Producers in the Provinces shall receive the same level of support per unit of production;

b) such program shall be cost shared between Canada, the Provinces and the Producer;

c) such program shall be voluntary in respect to Producer participation;

d) such program must be actuarially sound;

e) such program should operate at a level that limits losses but does not constitute an incentive to overproduce;

f) there should be reasonable equity in support to be provided, over time, among agricultural commodities.

Operation

14.56 Under the program for sugar beets, all growers are eligible to participate at the outset. Thereafter, growers will be required to give 3 years notice of their intention to join or leave the program during its planned life of 10 years. The premium level will cover all the costs of the program; the growers, the federal government and the provinces will each pay one-third of its cost. The support price will be equal to 75 per cent of the current cash cost of production plus 20 per cent of the indexed moving average price received for sugar beets during the immediately preceding 15 years. The program will operate under the general auspices of the federal Agricultural Stabilization Board and be administered by a Stabilization Committee composed of representatives of the federal and provincial governments and the sugar beet growers.

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(1) Information provided by Agriculture Canada.

Tripartite Considerations

14.57 The beet growers have complained that existing programs under the ASA are uncertain because sugar beets are not a named commodity and, even if they were, the five year base period for the calculation of payments is too short in relation to the length of the world sugar cycle.

14.58 The Tripartite program would resolve both of these problems because the producer would be guaranteed the return of a portion of cash costs and the calculation of the payment would take account of prices during the previous 15 years.

14.59 This program will need to be reviewed periodically to ensure that the formula adopted at its inception continues to meet the financial requirements of the sugar beet growers.

iii) Full-Cost Stabilization

(a) Impact on Sugar Beet Growers

14.60 Assuming a world price of raw sugar at 12 Cdn.¢/lb., the equivalent price of beet sugar would be 60.4 ¢/kg; at that price the market return for the grower would be equivalent to $25.98 per standard tonne. (See para. 14.33). With estimated total growing costs of $42.26 per tonne in Manitoba and $37.43 per tonne in Alberta, stabilization payments averaging $16.28 and $11.45 per tonne would be required annually.

(b) Impact on Sugar Refiners, HFCS Producers, Industrial Users and Consumers

14.61 The payment of full-cost stabilization payments would have no direct impact on sugar refiners, HFCS producers, industrial users and consumers of natural sweeteners.

(c) Impact on Government

14.62 With production of 350,000 tonnes of beets in Manitoba and 600,000 tonnes in Alberta, the output levels for 1986, stabilization payments of $5.7 million and $6.8 million respectively would be received, on a full-cost basis, by growers in these provinces. The displacement of sugar by HFCS with world sugar prices at 12 Cdn.¢/lb., assuming that this reduction in the Prairie market for sugar affects beet sugar and sugar beet production equally in each province, would result in annual payments in the order of $3.6 million to Manitoba growers and $4.4 million to Alberta growers.

(d) Impact on International Agreements

14.63 It is unlikely that full-cost stabilization payments would have any implications for the Canada/Australia Trade Agreement.

14.64 Full-cost stabilization payments to the sugar beet growers might be construed as being a subsidy but this would be irrelevant unless the export of sugar refined from beets were to cause material injury to sugar production in another country.

4. BUY-OUT OF SUGAR BEET GROWERS

14.65 Under this alternative, government(s) would pay growers to cease sugar beet production. This could be done by means of a payment to growers in the amount of the depreciated value of the machinery and equipment used in the growing and harvesting of beets. In December, 1986 the Federal government announced that it would pay the Quebec sugar beet growers $18,500 each to compensate them for no longer growing sugar beets. At the December 1986 public hearing, representatives of the western sugar beet growers estimated the average value of their specialized sugar beet equipment at $36,672.50 per grower after the third year of amortization. If the government were to adopt the buy-out alternative at this time, the cost to the government would be in the range of $18,500 to $36,700 per grower, the exact amount being subject to negotiation between the government and the growers.

14.66 The sugar factories would also cease operation as a direct result of this alternative and some compensation to the processor might have to be considered. According to the processor the cost of a new sugar beet factory would be in the order of $150 million. The Taber and Winnipeg factories have been in operation for many years; much of their original cost undoubtedly has been depreciated. It should be noted, however, that B.C. Sugar Company has also made some capital expenditures in recent years in these factories to assure their technological efficiency.

(a) Impact on Sugar Beet Growers

14.67 Once the sugar beet growers have received compensation to cease beet production their land would become available for other cash crops. These crops would have smaller gross proceeds per acre than sugar beets, an important consideration especially in southern Alberta where costly irrigated land is used. Many of the alternate crops are likely eligible for support under current stabilization measures, so that the buy-out option may not completely eliminate financial support with respect to the acreage sown to beets. Land values would probably decline even further, not only for land currently used in rotation with beets, but for all land in the districts where sugar beets are grown.

(b) Impact on Sugar Beet Processors

14.68 Once sugar beet production has ceased, all sugar consumed in the Prairie provinces would be imported from British Columbia, Eastern Canada or the United States. Transportation costs are such that B.C. Sugar Company and eastern refiners would divide this market somewhere in Saskatchewan. B.C. Sugar Company might ship bulk sugar from Vancouver to

Taber and continue to use part of the Taber facility for packaging and distribution. The elimination of beet sugar production could improve refined sugar sales and capacity utilization, an important consideration in view of the overall reduction in the domestic sugar market as a result of increased HFCS competition. This might result in some increases in refinery efficiency. However, if a significant share of the Prairie market were lost to U.S. suppliers of sugar and HFCS who are situated close to the border, Canadian refiners would gain little from a buy-out of the beet growers.

(c) Impact on the Local and Provincial Economies

14.69 Terminating the production of sugar beets, even allowing for alternative crops, will reduce farm cash income. Sugar beets are a higher value crop involving more intensive land utilization. Obviously, a drop in farm cash income will result in a decline in farm spending in the affected localities. This decline would be concentrated in the communities of Taber and Lethbridge and in the Red River Valley of southern Manitoba. The permanent year-round employment, in the order of 200 jobs, in the two sugar beet factories could be lost, as would 285 seasonal jobs. In general, the economies of Alberta and Manitoba will suffer a reduction in the spending generated by sugar beet growing and processing, calculated at $30 and $20 million, respectively, on the basis of the loss of direct income and its multiplier effect.

(d) Impact on Government Expenditures

14.70 With 1,100 growers each receiving government compensation payments which, if the experience in Quebec is a guide, would range from $18,500 to $36,700, the cost of this alternative would be in a range from $20 to $40 million. This would be a one-time cost. Some compensation might also have to be paid to B.C. Sugar Company for the cessation of its beet processing in Taber and Winnipeg. It should be noted that there would likely be support payments on the alternate crops replacing sugar beets.

THE AMBIT OF THIS REPORT

In this Reference the Board was not called upon to make recommendations and this Report is limited to an overview of the current natural sweetener market in Canada, an assessment of the longer term economic prospects of domestically produced natural sweeteners and the results of its examination of the scope for possible government action to assist that industry. Having concluded that market conditions will continue to put competitive pressures on the domestic sugar beet industry, the Board has set out and described some courses of action.

Donald R. Yeomans
Chairman

J.P. Bertrand
First Vice-Chairman

G.J. Gorman, Q.C.
Second Vice-Chairman

K.C. Martin
Member

R. K. Matthie
R.K. Matthie
Member

C.N. Beauchamp
Member

April 30, 1987

APPENDIX TABLE 1: SUGAR - WORLD PRODUCTION, CONSUMPTION, STOCKS AND TRADE, 1965-1985

	Production	Consumption	Stocks at End of Year	World Net Exports(a)	Free Market Net Exports(b)	Per Capita Consumption
	- '000 tonnes - raw value -					- kg -
1965	63,790	57,962	28,226	15,592	12,208	18.0
1966	62,741	59,754	29,355	14,281	12,340	18.3
1967	65,026	61,602	31,395	17,129	13,761	18.5
1968	65,411	64,744	31,030	16,774	14,306	19.1
1969	68,140	66,847	32,345	15,314	12,989	19.3
1970	71,142	70,480	31,586	18,168	14,035	19.9
1971	71,975	72,457	30,644	17,440	14,534	20.3
1972	73,735	73,660	30,109	19,059	16,657	20.4
1973	75,789	76,330	29,343	19,548	16,544	20.7
1974	73,397	77,303	27,895	19,913	16,240	20.0
1975	78,846	74,438	32,065	18,505	13,351	18.9
1976	82,400	79,241	34,266	20,040	15,549	19.7
1977	90,350	82,592	40,623	25,455	20,760	20.2
1978	90,832	86,354	44,630	22,361	17,490	20.7
1979	89,342	90,287	41,369	23,408	18,270	21.2
1980	85,489	88,590	37,455	23,140	19,418	20.2
1981	92,769	90,022	39,126	25,179	20,628	19.8
1982	101,810	92,637	47,270	27,282	21,643	20.2
1983	96,911	93,606	49,153	25,278	20,535	20.0
1984	99,217	96,348	51,357	24,332	19,201	20.3
1985	99,153	97,713	51,654	23,942	18,819	20.3

(a) World net exports are derived as gross exports less imports.

(b) Free market net exports are derived as world net exports less those resulting from government-to-government agreements. These agreements are those exports covered by the operation of the special arrangements as defined in Chapter IX of the 1977 ISA. They pertain to exports to the EEC of ACP and Indian sugar under the Lomé Convention, the 1975 Agreement between the EEC and India, and exports by Cuba to the USSR and other socialist countries.

Source: International Sugar Organization, Sugar Year Book, 1965-1985.

APPENDIX TABLE 2: SUGAR - WORLD PRICE, 1950-1986

	ISA Price	
	U.S. ¢/lb.	Cdn. ¢/kg
1950	4.98	11.96
1951	5.67	13.16
1952	4.17	9.00
1953	3.41	7.39
1954	3.26	7.00
1955	3.24	7.05
1956	3.48	7.55
1957	5.16	10.91
1958	3.50	7.49
1959	2.97	6.28
1960	3.14	6.72
1961	2.91	6.50
1962	2.98	7.03
1963	8.34	19.84
1964	5.77	13.73
1965	2.08	4.94
1966	1.81	4.30
1967	1.92	4.56
1968	1.90	4.52
1969	3.20	7.61
1970	3.68	8.47
1971	4.50	10.03
1972	7.27	15.88
1973	9.45	20.84
1974	29.66	63.97
1975	20.37	45.69
1976	11.51	25.03
1977	8.10	19.01
1978	7.81	19.62
1979	9.65	24.94
1980	28.69	73.96
1981	16.83	44.50
1982	8.35	22.71
1983	8.49	23.06
1984	5.20	14.84
1985	4.06	12.22
1986(a)	6.62	20.35

(a) Estimate, January-June.

Source: International Sugar Organization, Sugar Year Book.

APPENDIX TABLE 3: SUGAR - EEC INTERVENTION PRICE AND WORLD PRICE, 1980-1986

	EEC Intervention Price		World Price (cif Rotterdam)		EEC Price as Percentage of World Price
	ECU[a]/100 kg	Cdn. ¢/kg	ECU[a]/100 kg	Cdn. ¢/kg	%
1980-81	43.27	70.36	53.94	87.71	80
1981-82	46.95	62.77	31.58	42.22	149
1982-83	51.41	62.10	25.06	30.27	205
1983-84	53.47	58.60	27.23	29.84	196
1984-85	53.47	54.54	20.22	21.03	264
1985-86	54.18	69.35	22.28(b)	28.52	243

(a) The ECU (European Currency Unit) is the Community currency used for accounting purposes. It is made up of the various national currencies and also known as the "currency basket".

(b) Estimated, based on ten months actual and two months estimated.

Source: EEC Publications and S & W. Berisford PLC, Background Sugar Notes, EEC Sugar Support Prices in National Currencies for 1985/86 Together with Green Rates and MCA's, Issue No. 13, June 1985.

APPENDIX TABLE 4: SUGAR - EEC PRODUCTION, CONSUMPTION, STOCKS, IMPORTS AND EXPORTS, 1968-1985

	Production	Imports	Exports	Net Trade	Consumption	Stocks at End of Period
			- tonnes - raw value -			
1968	8,743,545	2,359,449	1,242,402	1,117,047	10,544,092	7,238,993
1969	9,574,808	2,508,227	808,227	1,700,000	10,445,308	8,057,154
1970	9,088,594	2,221,172	1,178,845	1,042,327	10,692,070	7,593,020
1971	10,287,253	2,296,891	1,287,919	1,008,972	10,460,719	8,451,144
1972	9,935,764	2,293,964	1,919,571	374,393	10,474,683	8,305,388
1973	10,176,858	2,228,401	1,915,770	312,631	11,116,435	7,678,442
1974	9,237,249	2,164,119	1,127,528	1,036,591	11,698,412	6,253,473
1975	10,818,079	2,153,681	701,766	1,451,915	9,540,851	8,982,616
1976	10,778,150	2,077,562	1,868,720	208,842	10,750,715	9,218,893
1977	12,458,245	1,732,914	2,698,841	965,927	9,871,113	10,840,098
1978	13,170,371	1,656,121	3,586,285	1,930,164	10,854,635	11,475,194
1979	13,613,122	1,474,999	3,621,427	2,146,428	10,812,998	12,128,826
1980	13,545,211	1,430,903	4,324,847	2,893,944	10,972,259	11,807,686
1981	15,475,940	1,364,731	5,413,752	4,049,021	10,593,219	12,635,000
1982	15,514,507	1,470,024	5,614,650	4,144,626	10,693,652	13,311,229
1983	12,357,044	1,516,041	4,909,960	3,393,919	10,533,837	11,740,517
1984	13,297,359	1,571,799	4,392,724	2,820,925	10,636,447	11,580,504
1985	13,860,040	1,338,867	4,291,464	2,952,597	10,543,128	11,944,819

Source: International Sugar Organization, Sugar Year Book, 1968-1985.

APPENDIX TABLE 5: EEC SUGAR SECTOR LEVIES AND EXPENDITURES, 1980-1985

	1980	1981	1982	1983	1984	1985[a]
	- Million ECU's -					
1. Levies						
Production	219.8	125.8	276.9	469.4	708.1	505.0
Storage	247.1	356.7	428.9	478.6	468.0	520.0
Total Levies	466.9	482.5	705.8	948.0	1,176.1	1,025.0
2. Expenditures						
Export Refunds	286.2	409.2	742.5	758.1	1,190.0	1,235.0
Storage Reimbursement	272.6	344.3	489.9	550.5	429.5	430.0
Other	16.4	14.0	9.5	7.6	12.0	24.0
Total Expenditures	575.2	767.5	1,241.9	1,316.2	1,631.5	1,689.0
Difference (2-1)	-108.3	-285.0	-536.1	-368.2	-455.4	-664.0

(a) Estimated by the EEC Council governing sugar regulations.

Source: Commission of the European Communities, Proposal for a Council Regulation (EEC) Amending Regulation (EEC) No. 1785/81 on the Common Organization of the Markets in the Sugar Sector, COM(85) 433 Final, August 1985.

APPENDIX TABLE 6: SUGAR QUOTA ALLOWANCES BY COUNTRY, UNITED STATES, 1982-1986(a)

	1 Oct 82 to 30 Sep 83(b) (12 Months)	26 Sep 83 to 30 Sep 84(c) (13 Mo. 4 Days)	1 Oct 84 to 30 Nov 85 (14 Months)	1 Dec 85 to 31 Dec 86 (13 Months)
		- tonnes, raw value -		
Argentina	109,225	118,665	99,083	66,939
Australia	210,830	229,052	191,253	129,948
Barbados	17,781	19,318	16,130	11,340
Belize	27,941	30,356	25,347	17,124
Bolivia	20,321	22,077	18,434	12,454
Brazil	368,317	400,150	334,116	225,726
Canada	27,941	30,356	25,347	17,124
Colombia	60,963	66,232	55,302	37,362
Congo	-	15,219	11,340	11,340
Costa Rica	38,102	56,622	47,448	31,491
Dominican Republic	447,061	485,700	405,548	273,984
Ecuador	27,941	30,356	25,347	17,124
El Salvador	66,043	80,887	67,641	45,359
Fiji	17,781	19,318	16,130	11,340
Gabon	-	-	11,340	11,340
Guatemala	121,926	132,464	110,604	74,723
Guyana	30,481	33,116	27,651	18,681
Haiti	14,969	15,219	11,340	11,340
Honduras	25,401	53,990	45,375	29,677
India	20,321	22,077	18,434	12,454
Ivory Coast	14,969	15,219	11,340	11,340
Jamaica	27,941	30,356	25,347	17,124
Madagascar	14,969	15,219	11,340	11,340
Malawi	17,781	26,575	32,114	15,567
Mauritius	27,941	30,356	25,347	27,753
Mexico	14,969	15,219	11,340	11,340
Mozambique	33,022	35,876	29,955	20,237
Nicaragua	53,342	5,443	5,443	-
Panama	73,663	80,030	66,823	45,145
Papua New Guinea	-	-	11,340	11,340
Paraguay	14,969	15,219	11,340	11,340
Peru	104,145	113,146	94,474	63,826
Philippines	342,916	372,554	311,074	210,158
St. Christopher-Nevis	14,969	15,219	11,340	11,340
South Africa	58,423	63,472	52,998	35,805
Swaziland	40,642	44,155	36,868	24,908

APPENDIX TABLE 6: (CONCL.)

	1 Oct 82 to 30 Sep 83[b] (12 Months)	26 Sep 83 to 30 Sep 84[c] (13 Mo. 4 Days)	1 Oct 84 to 30 Nov 85 (14 Months)	1 Dec 85 to 31 Dec 86 (13 Months)
	- tonnes, raw value -			
Taiwan	30,481	33,116	27,651	18,681
Thailand	35,562	38,635	32,259	21,794
Trinidad-Tobago	17,781	19,318	16,130	11,340
Uruguay	-	15,219	11,340	11,340
Zimbabwe	30,481	33,116	27,651	18,681
TOTAL QUOTA[d]	2,624,123	2,880,303	2,428,389	1,676,527

(a) Additional allocations from 11 May to 30 September 1982 were 580,600 tonnes.

(b) Does not reflect global reallocation of shortfalls (by Ecuador and Trinidad-Tobago) of a combined 45,722 tonnes.

(c) Reflects global allocation of 90,718 tonnes increase, enacted on 5 April 1984.

(d) Including minimum boatloads.

Source: USDA, Sugar, Molasses and Honey, Foreign Agriculture Circular, FS1-86, May, 1986.

APPENDIX TABLE 7: HFCS AND REFINED SUGAR PRICES, CHICAGO AND NORTHEAST MARKET, UNITED STATES, 1975-1986

	HFCS-42		HFCS-55		Refined Sugar Wholesale		Price Discount to Sugar	
							HFCS-42	HFCS-55
	US ¢/lb.(a)	Cdn ¢/kg.	US ¢/lb.(a)	Cdn ¢/kg	US ¢/lb.(b)	Cdn ¢/kg	%	%
1975	22.34	50.11	..	..	31.43	70.50	28.9	..
1976	13.85	30.12	..	..	19.21	41.77	27.9	..
1977	13.58	31.84	..	..	17.29	40.55	21.5	..
1978	11.79	29.65	..	..	20.87	52.47	43.5	..
1979	12.91	33.35	..	..	23.20	59.93	44.4	..
1980	23.64	60.94	..	..	40.99	105.66	42.3	..
1981	21.47	56.76	23.59	62.37	30.20	79.84	28.9	21.9
1982	14.30	38.91	18.81	51.19	27.62	75.16	48.2	31.9
1983	17.79	48.35	21.06	57.23	26.09	70.90	31.8	19.3
1984	19.58	55.90	22.69	64.78	25.66	73.26	23.7	11.6
1985	18.12	53.54	19.95	60.06	23.18	69.76	21.8	13.9
1986(c)	17.07	52.47	19.23	59.10	23.31	71.64	26.8	17.5

(a) Dry weight in bulk, (Chicago-West).
(b) Refined cane sugar in 100-lb. bags, Northeast (1975-81). Beet sugar, f.o.b. plant bulk, Chicago-West (1982-86).
(c) January to June.

Sources: (1) United States International Trade Commission (USITC), Sugar, Report to the President on Investigation, No. 22-45 Under Section 22, of the Agricultural Adjustment Act, June 1982; (2) USDA, Sugar and Sweetener, SSRV10N3, September 1985; (3) USDA, Sugar and Sweetener, Outlook and Situation Report, Economic Research Service, SSRV11N1, March 1986; (4) USDA, Sugar and Sweetener, Situation and Outlook Report, Economic Research Service, SSRV11N3, September 1986.

APPENDIX TABLE 8: SWEETENERS - CONSUMPTION BY TYPE, UNITED STATES, 1975-1986

		Corn Sweeteners								
	Sugar Refined	HFCS Dry Basis	Glucose Dry Basis	Dextrose Dry Basis	Total	Honey	Edible Syrups	Total Caloric Sweeteners	Non-Caloric(a)	Grand Total
					- '000 tonnes -					
1975	8,740	490	1,716	490	2,696	98	39	11,574	607	12,181
1976	9,241	713	1,732	495	2,939	89	40	12,310	603	12,913
1977	9,417	950	1,759	409	3,118	100	40	12,675	659	13,334
1978	9,239	1,223	1,798	384	3,405	111	41	12,795	697	13,492
1979	9,125	1,520	1,829	363	3,712	106	40	12,983	715	13,698
1980	8,644	1,979	1,819	362	4,160	83	42	12,929	795	13,724
1981	8,288	2,426	1,858	366	4,650	84	42	13,063	855	13,918
1982	7,772	2,811	1,898	369	5,079	95	42	12,988	991	13,979
1983	7,566	3,268	1,915	372	5,556	96	43	13,260	1,383	14,643
1984	7,270	3,904	1,934	376	6,213	107	43	13,632	1,696	15,328
1985	6,881	4,721	1,953	379	7,054	109	44	14,089	1,843	15,932
1986(b)	6,681	4,902	1,971	383	7,256	110	44	14,091	2,008	16,099

(a) Sugar sweetness equivalent. Assumes saccharin is 300 times as sweet as sugar and aspartame is 200 times as sweet as sugar.

(b) January to June.

Sources: USDA, Sugar and Sweetener, Outlook and Situation Report, Economic Research Service, SSRV11N1, March 1986.
USDA, Sugar and Sweetener, Outlook and Situation Report, Economic Research Service, SSRV10N3, September 1985.
United States General Accounting Office, U.S. Sweetener/Sugar Issues and Concerns, Report to the Congress of the United States by the Comptroller General, November 1984.

APPENDIX TABLE 9: SWEETENERS - PERCENTAGE DISTRIBUTION OF CONSUMPTION, UNITED STATES, 1975-1986

		Corn Sweeteners								
	Sugar Refined	HFCS Dry Basis	Glucose Dry Basis	Dextrose Dry Basis	Total	Honey	Edible Syrups	Total Caloric Sweeteners	Non-Caloric Sweeteners	Grand Total
					- per cent -					
1975	71.75	4.02	14.09	4.02	22.13	0.80	0.32	95.02	4.98	100
1976	71.56	5.52	13.41	3.83	22.76	0.69	0.31	95.33	4.67	100
1977	70.62	7.12	13.19	3.07	23.38	0.75	0.30	95.06	4.94	100
1978	68.48	9.06	13.33	2.85	25.24	0.82	0.30	94.83	5.17	100
1979	66.62	11.10	13.35	2.65	27.10	0.77	0.29	94.78	5.22	100
1980	62.98	14.42	13.25	2.64	30.31	0.60	0.31	94.21	5.79	100
1981	59.55	17.43	13.35	2.63	33.41	0.60	0.30	93.86	6.14	100
1982	55.60	20.11	13.58	2.64	36.33	0.68	0.30	92.91	7.09	100
1983	51.67	22.32	13.08	2.54	37.94	0.66	0.29	90.56	9.44	100
1984	47.43	25.47	12.62	2.45	40.53	0.70	0.28	88.94	11.06	100
1985	43.19	29.63	12.26	2.38	44.28	0.68	0.28	88.43	11.57	100
1986	41.50	30.45	12.24	2.38	45.07	0.68	0.27	87.53	12.47	100

Source: Appendix Table 8.

APPENDIX TABLE 10: SWEETENERS - PER CAPITA CONSUMPTION, UNITED STATES, 1975-1986

		Corn Sweeteners								
	Sugar Refined	HFCS Dry Basis	Glucose Dry Basis	Dextrose Dry Basis	Total	Honey	Edible Syrups	Total Caloric Sweeteners	Non-Caloric[a]	Grand Total
					- pounds -					
1975	89.2	5.0	17.5	5.0	27.5	1.0	0.4	118.1	6.2	124.3
1976	93.4	7.2	17.5	5.0	29.7	0.9	0.4	124.4	6.1	130.5
1977	94.2	9.5	17.6	4.1	31.2	1.0	0.4	126.8	6.6	133.4
1978	91.4	12.1	17.8	3.8	33.7	1.1	0.4	126.6	6.9	133.5
1979	89.3	14.9	17.9	3.6	36.4	1.0	0.4	127.1	7.0	134.1
1980	83.6	19.1	17.6	3.5	40.2	0.8	0.4	125.1	7.7	132.8
1981	79.4	23.2	17.8	3.5	44.5	0.8	0.4	125.1	8.2	133.3
1982	73.7	26.7	18.0	3.5	48.2	0.9	0.4	123.2	9.4	132.6
1983	71.1	30.7	18.0	3.5	52.2	0.9	0.4	124.6	13.0	137.6
1984	67.7	36.3	18.0	3.5	57.9	1.0	0.4	126.9	15.8	142.7
1985	63.4	43.5	18.0	3.5	65.0	1.0	0.4	129.8	17.0	146.8
1986[b]	60.9	44.7	18.0	3.5	66.2	1.0	0.4	128.5	18.5	147.0

(a) Sugar sweetness equivalent. Assumes sacharin is 300 times as sweet as sugar and aspartame is 200 times as sweet as sugar.

(b) Estimated.

Sources: USDA, Sugar and Sweetener, Outlook and Situation Report, Economic Research Service, SSRV11N1, March 1986.
USDA, Sugar and Sweetener, Outlook and Situation Report, Economic Research Service, SSRV10N3, September 1985.
United States General Accounting Office, U.S. Sweetener/Sugar Issues and Concerns, Report to the Congress of the United States by the Comptroller General, November 1984.
USDA, Sugar and Sweetener, Situation and Outlook Report, Economic Research Service, SSRV11N3, September, 1986.

APPENDIX TABLE 11: SUGAR - PRODUCTION, CONSUMPTION, IMPORTS AND EXPORTS, UNITED STATES, 1975-1986

	Production	Consumption	Imports	Exports
	- '000 tonnes, raw value -			
1975	5,719	9,352	3,524	196
1976	6,171	9,889	4,229	69
1977	5,528	10,076	5,572	123
1978	5,085	9,885	4,251	44
1979	5,259	9,764	4,564	66
1980	5,207	9,250	4,081	625
1981	5,651	8,868	4,562	1,081
1982	5,389	8,315	2,691	124
1983	5,158	8,095	2,892	272
1984	5,347	7,779	3,231	389
1985(a)	5,419	7,362	2,607	421
1986(b)	5,719	7,149	1,896	331

(a) Preliminary.
(b) Estimate.

Source: USDA, Sugar and Sweetener, Situation and Outlook, Economic Research Service, SSRV11N3, September, 1986.

APPENDIX TABLE 12: RAW SUGAR - IMPORTS BY COUNTRY OF ORIGIN, CANADA, 1965-1986

	Australia		South Africa		Cuba		Commonwealth Africa NES(a)	
	'000 tonnes	million $	'000 tonnes	million $	'000 tonnes	million $	'000 tonnes	million $
1965	133.8	8.6	110.5	8.0	65.6	3.3	-	-
1966	105.4	5.7	132.2	7.0	65.4	3.0	-	-
1967	157.1	7.3	270.6	15.1	70.0	3.0	-	-
1968	144.8	6.9	292.6	16.4	47.4	2.0	-	-
1969	219.0	14.1	216.8	17.6	72.0	5.0	31.0	2.8
1970	269.5	23.7	203.8	19.4	68.2	4.9	37.5	3.6
1971	275.4	29.4	212.8	23.8	70.8	5.9	41.7	4.4
1972	379.5	55.2	212.8	35.3	30.0	3.9	38.6	5.8
1973	364.5	61.4	263.0	46.8	44.4	6.9	41.5	7.3
1974	357.8	170.0	167.0	69.1	99.7	58.5	28.7	15.1
1975	362.3	159.3	308.9	134.1	148.3	68.1	9.3	9.2
1976	391.7	110.4	304.0	85.5	133.0	39.4	27.3	8.3
1977	512.4	104.0	301.7	63.1	101.4	20.9	13.0	3.0
1978	463.8	86.5	262.3	54.7	192.1	36.8	-	-
1979	350.6	81.0	215.4	55.3	314.0	68.8	-	-
1980	355.6	198.3	164.8	116.1	276.2	140.1	-	-
1981	281.8	163.3	225.8	112.4	303.9	175.7	27.9	13.5
1982	413.6	112.4	164.6	46.9	188.8	65.4	27.9	8.4
1983	335.0	76.6	101.0	19.1	185.6	38.7	147.5	33.0
1984	395.0	78.3	153.0	26.8	234.0	43.7	74.6	15.8
1985	438.1	74.0	177.2	26.8	133.1	16.6	105.2	17.1
1986	552.6	105.5	146.7	33.8	222.9	44.1	122.1	23.3

APPENDIX TABLE 12: (CONCL.)

	Guyana		Mauritius		Others (b)		Total	
	'000 tonnes	million $	'000 tonnes	million $	'000 tonnes	million $	'000 tonnes	million $
1965	-	-	94.8	6.4	426.3	28.9	831.0	55.1
1966	102.8	6.4	86.2	5.1	280.0	17.7	771.7	44.8
1967	89.0	5.0	49.8	2.9	253.3	14.3	890.0	47.6
1968	62.7	3.3	126.6	7.1	185.6	10.5	860.0	46.4
1969	37.8	3.0	203.1	14.1	166.8	27.8	946.4	70.3
1970	23.2	2.0	163.8	14.8	183.0	17.0	949.0	85.3
1971	6.2	0.7	104.7	11.5	187.0	21.3	898.7	97.0
1972	-	-	140.7	18.1	85.8	12.2	907.5	130.5
1973	-	-	179.6	28.4	69.7	11.3	962.8	162.0
1974	-	-	157.6	76.6	43.0	12.5	853.8	401.8
1975	-	-	84.6	63.0	23.2	25.4	936.6	459.2
1976	5.6	1.0	4.1	1.3	10.7	2.6	876.4	248.6
1977	20.6	4.4	25.8	6.5	86.1	18.0	1,060.9	219.9
1978	54.6	11.9	40.1	7.5	16.0	3.3	1,028.8	200.6
1979	71.7	17.2	13.9	3.7	43.2	10.3	1,008.8	236.2
1980	54.6	24.2	-	-	61.6	45.0	858.1	499.5
1981	0.3	0.1	10.6	4.5	-	-	849.5	469.4
1982	24.7	5.2	13.6	2.5	48.1	10.3	881.4	251.0
1983	29.4	6.0	14.9	4.2	117.2	22.9	930.3	200.5
1984	5.5	1.0	13.0	3.0	99.0	20.0	983.3	188.6
1985	8.9	1.3	-	-	119.7	18.7	982.3	154.3
1986	21.8	3.9	17.2	3.1	26.2	5.6	1,109.5	219.4

(a) Principally Swaziland since 1980.
(b) Principally Fiji, Brazil and Belize.

Source: Statistics Canada Cat. Nos. 65-007, Imports by Commodities and 65-203, Imports: Merchandise Trade.

APPENDIX TABLE 13: RAW SUGAR - IMPORTS, PRICE PER KILOGRAM, CANADA, 1965-1986

	Australia	South Africa	Cuba	Commonwealth Africa NES(a)	Guyana	Mauritius	Others(b)	Average	World Price
				- Cdn. ¢/kg -					
1965	6.4	7.2	5.0	-	-	6.7	6.8	6.6	4.9
1966	5.4	5.3	4.5	-	6.2	5.9	6.3	5.8	4.3
1967	4.7	5.6	4.3	-	5.6	5.8	5.6	5.3	4.6
1968	4.8	5.6	4.3	-	5.3	5.6	5.7	5.4	4.5
1969	6.4	8.1	7.0	9.0	7.8	7.0	16.6	7.4	7.6
1970	8.8	9.5	7.1	9.6	8.5	9.1	9.2	9.0	8.5
1971	10.7	11.2	8.4	10.6	11.2	11.0	11.4	10.8	10.0
1972	14.5	15.2	13.0	15.1	-	12.9	14.2	14.4	15.9
1973	16.8	17.8	15.5	17.7	-	15.8	16.2	16.8	20.8
1974	47.5	41.4	58.7	52.5	-	48.6	29.1	47.1	64.0
1975	44.0	43.4	46.0	98.9	-	74.5	109.5	49.0	45.7
1976	28.2	28.1	29.6	30.4	18.7	31.2	24.6	28.4	25.0
1977	20.3	20.9	20.6	23.3	21.6	25.1	21.0	20.7	19.0
1978	18.7	20.9	19.1	-	21.7	18.6	20.6	19.5	19.6
1979	23.1	25.7	21.9	-	23.9	26.9	23.8	23.4	24.9
1980	55.8	70.5	50.7	-	44.3	-	73.1	58.2	73.9
1981	58.0	49.8	57.8	48.5	33.3	42.5	-	55.3	44.5
1982	27.2	28.5	34.6	30.0	21.1	18.4	21.4	28.5	22.7
1983	22.9	18.9	20.9	22.3	20.4	28.2	19.5	21.6	23.1
1984	19.8	17.5	18.0	21.2	18.2	23.1	20.2	19.2	14.8
1985	16.9	15.1	12.5	16.2	14.6	-	15.6	15.7	12.2
1986	19.1	23.0	19.8	19.1	17.9	18.0	21.4	19.8	20.4

(a) Principally Swaziland since 1980.
(b) Principally Fiji, Brazil and Belize.

Sources: Appendix Tables 2 and 12.

APPENDIX TABLE 14: NATURAL SWEETENERS - VOLUME OF IMPORTS, BY TYPE, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- tonnes -			
Raw Sugar[a]	858,082	859,656	884,646	930,290	983,271	982,315	1,090,047
Sugar[b]							
Refined	7,812	6,781	3,297	18,767	31,767	99,632	117,245
Syrup	42	35	75	374	333	465	1,141
Corn Sweeteners[c]							
HFCS, excluding blended	11,190	2,647	254	162	205	288	2,003
HFCS, blended	11	7,672	1,420	1,267	1,107	799	1,169
Glucose syrup, n.e.s.	30,166	17,884	4,094	4,827	6,395	4,019	4,304
Dextrose	26,110	25,688	18,646	24,633	34,061	25,004	34,807
Other Natural Sweeteners[d]							
Honey	276	447	239	284	196	246	265
Maple Syrup and Sugar	218	196	149	171	239	126	134

(a) Commodity class: 101-19 (Includes minor amounts of sugar beets).
(b) Commodity classes: 101-39 and 101-91-30.
(c) Commodity classes: 101-42 and 101-45.
(d) Commodity classes: 055-09, 101-48-20 and 101-91-20.

Source: Statistics Canada, Cat. No. 65-203, Imports: Merchandise Trade and Computer Printouts.

APPENDIX TABLE 15: NATURAL SWEETENERS - VALUE OF IMPORTS, BY TYPE, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- $'000 -			
Raw Sugar[a]	499,548	467,150	253,510	201,724	189,530	154,306	215,090
Sugar[b]							
Refined	8,446	5,835	1,864	7,807	11,853	27,100	37,424
Syrup	44	31	81	202	231	300	716
Corn Sweeteners[c]							
HFCS, excluding blended	6,416	1,991	77	80	105	84	614
HFCS, blended	7	3,372	515	439	410	349	391
Glucose syrup, n.e.s.	8,829	7,738	1,827	1,980	2,654	1,581	1,475
Dextrose	13,914	14,184	9,635	12,262	18,263	13,907	19,095
Other Natural Sweeteners[d]							
Honey	531	843	653	707	654	643	716
Maple Syrup and Sugar	420	390	323	315	617	463	744

(a) Commodity class: 101-19 (Includes minor amounts of sugar beets).
(b) Commodity classes: 101-39 and 101-91-30.
(c) Commodity classes: 101-42 and 101-45.
(d) Commodity classes: 055-09, 101-48-20 and 101-91-20.

Source: Statistics Canada, Cat. No. 65-203 Imports: Merchandise Trade and Computer Printouts.

APPENDIX TABLE 16: NATURAL SWEETENERS - VOLUME OF EXPORTS, BY TYPE, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- tonnes -			
Sugar							
Refined	13,001	127,296	88,841	83,112	76,770	58,435	88,035
Corn Sweeteners							
High fructose corn syrup	-	-	xxx	xxx	xxx	xxx	xxx
Other Natural Sweeteners							
Honey	10,865	8,220	9,752	9,522	18,871	17,278	11,889
Maple Sugar and Syrup	5,903	6,334	6,352	6,855	6,798	7,771	10,087

Source: Statistics Canada, Cat. Nos. 65-202, Exports: Merchandise Trade and 65-004, Exports by Commodities.

APPENDIX TABLE 17: NATURAL SWEETENERS - VALUE OF EXPORTS, BY TYPE, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
				- $'000 -			
Sugar							
Refined	11,453	75,346	47,997	41,081	41,907	31,635	47,986
Corn Sweeteners							
High fructose corn syrup	-	-	xxx	xxx	xxx	xxx	xxx
Other Natural Sweeteners							
Honey	15,949	12,985	15,150	14,396	25,537	22,922	18,314
Maple Sugar and Syrup	15,396	17,790	19,158	20,990	23,742	31,709	55,413

Source: Statistics Canada, Cat. Nos., 65-202 Exports: Merchandise Trade and 65-004 Exports by Commodities.

APPENDIX TABLE 18: REFINED SUGAR - SHIPMENTS BY REFINERS, CANADA, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
	- tonnes -						
Sugar, granulated, cane and beet	630,579	744,174	702,946	649,365	722,270	656,788	643,632
Sugar, liquid, cane and beet	224,048	205,598	209,312	244,529	252,571	284,378	301,544
Sugar, refined, soft, cane and beet	52,391	54,263	53,013	52,585	51,922	52,678	55,569
Sugar, refined, icing, cane and beet	42,264	40,876	40,658	43,887	42,857	39,448	41,201
TOTAL	949,282	1,044,911	1,005,929	990,366	1,069,620	1,033,292	1,041,946

Source: Statistics Canada, Cat. No. 32-013 The Sugar Situation.

APPENDIX TABLE 19: SUGAR BEETS - CASH PRODUCTION COSTS, MANITOBA AND ALBERTA, 1985

	Manitoba		Alberta	
	Variable	Fixed	Variable	Fixed
		- $/acre -		
Pre-Plant				
Discing	-		2.91	
Harrowing	2.20		-	
Cultivating	6.57		-	
Planing	-		5.98	
Ridge-deridge	-		16.80	
Plowing	-		8.50	
Harrow-spray	0.49		-	
Herbicide	0		14.66	
Fertilizing	47.98		79.25	
Lime application	-		-	
	56.80		128.41	
Plant				
Seed	20.39		17.05	
Herbicide	-		-	
Insecticide	11.51		31.50	
Planting	3.27		5.85	
	35.17		54.40	
Post-Plant				
Hand weeding	10.00		30.00	
Cultivating	4.90		13.49	
Irrigation labour	-		18.20	
Insecticide	1.68		18.56	
Herbicide	70.83		95.67	
Rock picking	-		-	
	87.41		175.92	
Harvest				
Harvesting	36.94		9.10	
Hauling	64.85		32.49	
Defoliate	8.42		4.93	
	110.21		46.52	

APPENDIX TABLE 19: (CONCL.)

	Manitoba		Alberta	
	Variable	Fixed	Variable	Fixed
		- $/acre -		
Overhead				
Taxes		9.69		21.12
Water costs	-		*	
Interest				
- operating capital	6.84		17.52	
- machinery		36.24		42.55
Insurance		4.43		5.58
Association dues	2.61		-	
Research tariff	1.30		-	
Crop insurance	12.26		-	
	23.01	50.36	17.52	69.25
TOTAL	312.60	50.36	422.77	69.25

Source: Agriculture Canada, Development Policy Institute, Input and Technology Division, 1985 MBMS (Micro Computer Budget Management System) Cost Survey.

APPENDIX TABLE 20: SUGAR BEETS - NON-CASH PRODUCTION COSTS, MANITOBA AND ALBERTA, 1985

	Manitoba		Alberta	
	Variable	Fixed	Variable	Fixed
	- $/acre -			
Pre-Plant				
Discing/owner operator labour	-		1.14	
Harrowing	0.82		-	
Cultivating	2.44		-	
Planing	-		2.40	
Ridge-deridge	-		8.34	
Plowing	0.36		3.06	
Harrow-spray	-		-	
Herbicide	-		-	
Fertilizing	-		-	
Lime application	-		-	
	3.62		14.94	
Plant				
Seed	-		-	
Herbicide	-		-	
Insecticide	-		-	
Planting	1.85		3.18	
	1.85		3.18	
Post-Plant				
Hand weeding	-		-	
Cultivating	3.70		10.73	
Irrigation labour	-		0.15	
Insecticide	1.06		0.91	
Herbicide	5.30		4.96	
Rock picking	-		-	
	10.06		16.75	
Harvest				
Harvesting	3.06		3.60	
Hauling	-		-	
Defoliate	6.67		3.34	
	9.73		6.94	

APPENDIX TABLE 20: (CONCL.)

	Manitoba		Alberta	
	Variable	Fixed	Variable	Fixed
	- $/acre -			
Overhead				
Taxes				
Water costs				
Interest				
- operating capital (equity)	8.88		22.19	
- IT equity		5.44		6.49
- machinery				42.55
- land		60.00		40.00
Insurance				5.58
Association dues				
Research tariff				
Crop insurance				
Depreciation		54.27		63.07
	8.88	119.71	22.19	109.56
TOTAL	34.14	119.71	64.00	109.56

Source: Agriculture Canada, Development Policy Institute, Input and Technology Division, 1985 MBMS (Micro Computer Budget Management System) Cost Survey.

APPENDIX TABLE 21: CORN PRICES QUOTED IN CHICAGO AND CHATHAM, MONTHLY AVERAGE, 1979-1986

		Chicago Price	Chatham Price			Chicago Price	Chatham Price
		- Cdn.	$/bushel -			- Cdn.	$/bushel -
1979	January	2.71	2.77	1982	January	3.15	2.96
	February	2.81	2.81		February	3.19	2.81
	March	2.84	2.85		March	3.27	2.84
	April	2.90	3.06		April	3.30	3.05
	May	3.08	3.17		May	3.37	3.13
	June	3.34	3.41		June	3.47	3.33
	July	3.50	3.56		July	3.32	3.38
	August	3.31	3.59		August	2.89	3.13
	September	3.27	3.77		September	2.71	2.98
	October	3.22	3.22		October	2.57	2.41
	November	3.04	3.05		November	2.93	2.63
	December	3.14	3.14		December	3.02	2.76
1980	January	2.94	3.04	1983	January	3.12	2.90
	February	3.06	3.04		February	3.41	3.08
	March	3.04	2.95		March	3.69	3.31
	April	3.10	3.05		April	3.96	3.63
	May	3.18	3.26		May	3.94	3.85
	June	3.11	3.47		June	3.89	4.11
	July	3.58	3.90		July	4.10	4.12
	August	3.92	4.09		August	4.28	4.37
	September	4.02	3.86		September	4.32	4.46
	October	3.99	3.79		October	4.28	4.14
	November	4.09	4.06		November	4.35	4.11
	December	4.18	4.12		December	4.24	3.98
1981	January	4.16	4.20	1984	January	4.13	3.97
	February	4.18	4.23		February	4.12	4.02
	March	4.14	4.21		March	4.38	4.23
	April	4.24	4.29		April	4.59	4.44
	May	3.70	4.20		May	4.68	4.60
	June	3.71	4.15		June	4.73	4.75
	July	3.74	4.20		July	4.57	4.63
	August	3.77	3.96		August	4.21	4.76
	September	3.70	3.58		September	3.87	4.70
	October	3.71	3.10		October	3.70	3.51
	November	3.11	2.99		November	3.67	3.47
	December	3.12	3.00		December	3.58	3.51

APPENDIX TABLE 21: (CONCL.)

		Chicago Price	Chatham Price			Chicago Price	Chatham Price
		- Cdn. $/bushel -				- Cdn. $/bushel -	
1985	January	3.71	3.55	1986	January	3.49	3.25
	February	3.78	3.48		February	3.47	3.12
	March	3.94	3.65		March	3.44	3.15
	April	3.97	3.85		April	3.41	3.04
	May	3.91	3.87		May	3.52	3.12
	June	3.88	3.86		June	3.53	3.08
	July	3.75	3.67		July	2.81	2.74
	August	3.48	3.44		August	2.34	2.62
	September	3.39	3.45		September	2.07	2.69
	October	3.13	2.92		October	2.08	2.39
	November	3.59	3.04				
	December	3.47	3.28				

Source: Canadian Import Tribunal.

APPENDIX TABLE 22: NATURAL SWEETENERS - PRODUCTION, TRADE AND CONSUMPTION, CANADA, 1980-1986[a]

	1980	1981	1982	1983	1984	1985	1986
	- '000 tonnes -						
SHIPMENTS							
Cane	847.3	940.9	877.9	872.4	947.6	937.3	982.9
Beet	102.0	104.0	128.0	118.0	122.0	96.0	59.0
Refined Sugar	949.3	1,044.9	1,005.9	990.4	1,069.6	1,033.3	1,041.9
HFCS	XXX	XXX	XXX	XXX	XXX	XXX	360.0[b]
Glucose	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Dextrose	-	-	-	-	-	-	-
Corn Sweeteners	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Honey	31.6	31.6	31.6	38.8	43.3	36.1	33.1
Maple Syrups & Sugar	15.0	18.5	11.2	11.7	10.7	13.4	13.2
Other Sweeteners	46.6	50.1	42.8	50.4	54.0	49.5	46.2
TOTAL	XXX	XXX	XXX	XXX	XXX	XXX	XXX
IMPORTS							
Sugar	7.8	6.8	3.3	18.8	31.8	99.6	117.2
Syrup	*	*	0.1	0.4	0.3	0.5	1.1
Refined Sugar	7.9	6.8	3.4	19.1	32.1	100.1	118.4
HFCS	11.2	10.3	1.7	1.4	1.3	1.1	3.2
Glucose	30.2	17.9	4.1	4.8	6.4	4.0	4.3
Dextrose	26.1	25.7	18.6	24.6	34.1	25.0	34.8
Corn Sweeteners	67.5	53.9	24.4	30.9	41.8	30.1	42.3
Honey	0.3	0.4	0.2	0.3	0.2	0.2	0.3
Maple Syrups & Sugar	0.2	0.2	0.1	0.2	0.2	0.1	0.1
Other Sweeteners	0.5	0.6	0.4	0.5	0.4	0.4	0.4
TOTAL	75.8	61.4	28.2	50.5	74.3	130.6	161.1

APPENDIX TABLE 22: (CONT.)

	1980	1981	1982	1983	1984	1985	1986
	- '000 tonnes -						
SUPPLY							
Cane	855.1	947.7	881.3	891.5	979.7	1,037.4	1,101.3
Beet	102.0	104.0	128.0	118.0	122.0	96.0	59.0
Refined Sugar	957.1	1,051.7	1,009.3	1,009.5	1,101.7	1,133.4	1,160.3
HFCS	XXX	XXX	XXX	XXX	XXX	XXX	363.2
Glucose	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Dextrose	26.1	25.7	18.6	24.6	34.1	25.0	34.8
Corn Sweeteners	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Honey	31.9	32.0	31.8	39.1	43.5	36.4	33.3
Maple Syrups & Sugar	15.2	18.7	11.3	11.8	10.9	13.6	13.3
Other Sweeteners	47.1	50.8	43.1	50.9	54.4	49.9	46.6
TOTAL	XXX	XXX	XXX	XXX	XXX	XXX	XXX
EXPORTS							
Refined Sugar	13.0	127.3	88.8	83.1	76.8	58.4	88.0
HFCS	XXX	XXX	XXX	XXX	XXX	XXX	256.8(c)
Honey	10.9	8.2	9.8	9.5	18.9	17.3	11.9
Maple Syrups & Sugar	5.9	6.3	6.4	6.9	6.8	7.8	10.1
Other Sweeteners	16.8	14.6	16.1	16.4	25.7	25.0	22.0
TOTAL	XXX	XXX	XXX	XXX	XXX	XXX	366.8
CONSUMPTION							
Cane	842.1	820.4	792.5	808.4	903.0	979.0	1,013.3
Beet	102.0	104.0	128.0	118.0	122.0	96.0	59.0
Refined Sugar	944.1	924.4	920.5	926.4	1,025.0	1,075.0	1,072.3

APPENDIX TABLE 22: (CONCL.)

	1980	1981	1982	1983	1984	1985	1986
				- '000 tonnes -			
HFCS	XXX	XXX	XXX	XXX	XXX	XXX	106.4
Glucose	XXX	XXX	XXX	XXX	XXX	XXX	220.0(d)
Dextrose	26.1	25.7	18.6	24.6	34.1	25.0	34.8
Corn Sweeteners	300.9	332.9	374.9	392.8	320.8	413.4	361.2
Honey	21.0	23.8	22.1	29.5	24.6	19.1	21.4
Maple Syrups & Sugar	9.3	12.4	4.9	5.0	4.1	5.8	3.2
Other Sweeteners	30.3	36.2	27.0	34.5	28.7	24.9	24.7
TOTAL	1,275.3	1,293.5	1,322.4	1,353.7	1,374.5	1,513.3	1,458.2

(a) Production is based on shipments data.
(b) 360,000, published at hearing, production data.
(c) U.S. data, imports of HFCS from Canada.
(d) Tariff Board approximation.

Source: Statistics Canada and Tariff Board Survey.

APPENDIX TABLE 23: PRODUCTS CONTAINING SUGAR, IMPORTS BY VALUE, CANADA, 1980-1986

		1980	1981	1982	1983	1984	1985	1986(a)
					- $'000 -			
51-59-81	Milk shake mix, powdered	33	27	1	3	1	4	4
51-59-82	Malted milk mix, powdered	105	174	148	63	338	121	19
51-99	Dairy products nes	3,156	2,785	3,816	4,213	4,685	6,269	2,654
64-20	Biscuits and cookies, exc. soda biscuits	21,032	22,841	27,203	30,026	40,801	45,984	19,516
64-30	Passover bread and matzo products	11,025	1,227	1,203	1,166	1,399	1,190	1,278
64-55	Pretzels	1,915	2,168	2,505	2,514	2,955	3,284	1,601
64-99	Bakery products nes	19,889	24,040	26,772	32,440	33,440	37,723	19,357
65-49	Macaroni products	8,684	11,179	11,028	13,022	15,873	15,881	8,803
66-30	Breakfast cereal foods	3,874	5,628	15,544	17,977	21,981	11,547	5,834
66-99	Cereal grain products nes	15,186	16,282	15,610	25,683	47,916	36,991	19,628
72-99	Fruits and berries, frozen nes	4,082	4,914	5,971	4,394	5,623	7,314	2,897
74-59	Fruit juices, not concentrated nes	4,698	6,548	8,483	6,582	8,156	8,845	2,305
74-99	Blended fruit juices, not concentrated	957	930	745	710	911	1,792	1,712
75-59	Fruit juice concentrates, not frozen nes	3,526	3,750	3,434	2,979	4,436	6,331	4,128
76-99	Fruits, preserved, not canned nes	3,586	2,911	4,226	5,201	6,665	8,063	4,647
78-03	Apples, canned, inc. applesauce	430	396	390	586	636	423	433
78-06	Apricots, canned	1,552	2,027	1,648	1,846	1,942	1,233	682
78-42	Peaches, canned	20,555	21,832	20,661	16,404	20,878	18,177	8,315
78-45	Pears, canned	4,133	5,124	5,283	5,420	6,289	6,917	2,838
78-58	Mixed fruits, canned nes	19,042	20,608	20,643	17,494	21,559	19,112	8,893
78-92	Jams, jellies and preserves, canned	4,278	4,901	3,494	4,911	7,066	9,594	4,225
78-94	Marmalades, canned	1,222	1,314	1,052	1,557	1,797	2,031	690
78-99	Fruit and products, canned nes	3,940	3,737	4,704	4,411	5,339	7,415	2,702

APPENDIX TABLE 23: (CONT.)

		1980	1981	1982	1983	1984	1985	1986(a)
		- $'000 -						
95-99	Vegetables and vegetable juices, canned nes	6,484	8,913	9,210	8,390	10,215	10,321	6,419
99-25	Pickles and relishes	3,926	3,876	3,925	4,418	5,059	6,258	2,925
99-40	Ketchup/catsup/	580	208	260	225	272	345	319
99-60	Soya sauce	1,743	2,107	1,927	2,328	2,596	2,865	1,606
99-70	Sauces nes	7,697	9,738	10,268	12,562	14,444	15,593	8,980
99-99	Dressings and spreads nes	2,852	3,784	3,481	3,980	5,361	6,133	3,018
104-02	Bubble gum	1,804	773	849	929	1,921	2,031	927
104-05	Chewing gum nes	2,001	1,023	343	1,429	2,341	2,429	690
104-16	Chocolate packaged	2,474	3,880	5,317	8,261	14,089	16,033	2,702
104-20	Chocolate confectionery nes	35,046	38,668	48,265	51,694	67,328	61,518	25,660
104-28	Licorice candy	2,427	2,735	3,314	3,425	3,660	3,273	1,712
104-35	Toffee	1,105	740	899	918	1,259	1,457	669
104-49	Sugar candy nes	17,150	16,684	16,257	20,806	23,594	25,915	15,024
104-75	Soft drink concentrates and syrups	11,115	17,356	17,826	17,097	29,599	56,493	23,935
104-99	Sugar preparations and confectionery nes	14,734	16,800	18,995	16,383	23,944	41,820	13,018
111-65	Cocoa or chocolate, sweetened, in blocks, cakes, crumbs or granules	10,467	14,212	13,544	11,995	10,118	10,035	3,849
142-99	Infant and junior foods	6,781	6,628	10,058	13,356	7,287	8,192	5,927
143-25	Fruit pies, frozen	300	112	59	72	228	355	64
143-99-65	Dessert pies/exc. fruit/ pre-cooked, frozen	438	378	393	344	352	197	175
143-99-69	Bakery products, pre-cooked, frozen nes	6,143	8,813	10,392	10,374	10,059	8,997	5,583
143-99-89	Pre-cooked frozen food preparations nes	527	1,191	774	1,028	1,571	2,544	1,239
146-36	Malt extract, malt syrup and malt syrups powder	218	270	531	1,256	1,624	1,661	906
146-40	Flavouring extract and essences	13,748	13,709	15,760	20,146	21,740	20,491	11,833

APPENDIX TABLE 23: (CONT.)

		1980	1981	1982	1983	1984	1985	1986(a)
					- $'000 -			
146-45	Flavouring powders	6,388	5,910	7,964	8,164	10,380	11,464	6,689
146-99	Food preparations nes	32,537	36,511	41,067	52,713	56,426	57,956	31,408
171-70	Fruit drinks and nectares	3,998	3,297	3,166	3,565	4,503	5,636	3,155
171-99	Non-alcoholic beverages nes	2,549	3,668	6,460	5,513	4,561	4,695	1,845
172-20	Ale, lager, porter and stout	25,043	19,092	13,251	18,891	17,018	54,154	9,068
172-39	Grape wine, still, table strength	131,729	130,052	146,922	128,640	178,605	165,357	79,995
172-45	Sherry	4,503	4,198	4,805	4,179	5,346	3,917	1,391
172-47	Vermouth	5,943	5,230	7,111	7,712	8,502	5,778	3,758
172-49	Grape wines, still, dessert strength nes	5,649	4,812	6,563	4,098	4,506	5,060	2,350
172-50	Grape wines, sparkling	16,125	22,096	22,527	17,576	27,001	27,349	13,779
172-99	Fermented alcoholic beverages nes	2,387	2,593	1,737	1,658	2,302	2,458	754
173-10	Brandy	22,082	24,149	25,457	21,904	26,985	25,791	13,982
173-20	Gin	9,785	7,232	8,522	7,789	8,970	8,189	4,603
173-30	Rum	9,700	11,852	14,472	11,331	14,689	12,837	13,653
173-40	Whiskey	41,834	44,540	41,810	39,785	46,976	41,662	20,171
173-60	Liqueurs	37,707	46,201	60,218	44,574	59,017	56,459	22,943
173-99	Distilled beverages and spirits nes	4,558	5,800	6,417	6,492	8,047	8,250	3,389
	TOTAL	669,177	715,174	794,680	795,602	1,003,181	1,058,209	493,274

(a) January to June.

Source: Statistics Canada Cat. Nos. 65-007, Imports by Commodities and 65-203 Imports: Merchandise Trade.

APPENDIX TABLE 24: PRODUCTS CONTAINING SUGAR, EXPORTS BY VALUE, CANADA, 1980-1986

		1980	1981	1982	1983	1984	1985	1986(a)
					- $'000 -			
51-99	Dairy products nes	1,501	6,752	3,658	5,356	4,394	4,583	3,178
64-20	Biscuits & cookies exc. soda bisc.	21,469	21,851	25,137	31,715	39,371	64,114	27,751
64-99	Bakery products nes	36,128	36,361	38,027	41,425	45,199	50,217	24,019
65-25	Macaroni products, dry	14,464	16,365	14,937	14,086	14,357	16,399	8,452
65-48	Macaroni products nes	168	250	299	835	332	471	179
66-30	Breakfast cereal foods	4,261	5,829	6,302	5,161	5,963	6,283	6,138
66-99	Cereal grain products nes	2,257	3,325	4,235	3,174	4,641	4,071	3,648
72-99	Fruits and berries	2,013	1,382	2,651	1,815	3,425	3,347	1,459
74-03	Apple juice, not concentrated	692	1,019	1,050	1,174	1,229	1,478	1,234
74-59	Fruit juices not concentrated nes	1,543	1,782	2,501	3,444	10,284	9,191	5,149
75-03	Apple juice concentrates	808	2,407	2,186	1,495	1,759	900	737
75-59	Fruit juice concentrates nes	6,033	4,217	3,858	3,293	5,879	5,833	5,125
78-03	Apples, including sauce	347	416	238	106	156	331	236
78-45	Pears, canned	3	4	172	9	417	197	25
78-90	Jams, jellies, preserved, canned	1,983	2,748	2,467	1,545	1,523	1,553	860
78-95	Fruit pie fillers, canned	144	244	268	155	331	187	52
78-99	Fruits and products, canned nes	533	1,428	1,302	1,140	1,361	1,305	513
95-90	Tomato juice, canned	577	239	255	217	610	941	718
95-99	Vegetables & vegetables juices, canned, nes	1,787	2,595	2,697	6,549	2,489	4,393	4,151
99-25	Pickles and relishes	1,407	1,639	1,928	1,911	1,804	2,234	1,083
99-99	Sauces, dressings & spreads nes	1,083	1,732	4,766	11,913	2,711	3,569	1,752
104-05	Chewing gum, including bubble gum	8,820	8,632	13,381	9,400	6,029	6,770	5,139
104-20	Chocolate confectionery	28,819	21,219	18,953	20,957	23,390	25,302	8,198
104-46	Sugar candies	-	-	-	2,657	4,320	6,258	6,247
104-75	Soft drink concentrates and syrups	481	483	343	403	424	886	1,695
104-99	Sugar prep. and confectionery nes	4,461	6,449	5,922	3,251	13,362	9,105	3,735
111-99	Cocoa and chocolate	3,438	7,146	16,544	16,867	49,448	43,100	32,786

APPENDIX TABLE 24: (CONCL.)

		1980	1981	1982	1983	1984	1985	1986(a)
					- $'000 -			
142-99	Infant and junior foods	20,104	20,463	27,250	24,005	27,420	16,077	3,611
143-99	Pre-cooked frozen dinners & prep. nes	2,881	8,479	3,591	4,691	7,923	26,871	11,021
144-99	Materials for food preparations nes	4,977	5,238	8,577	6,783	8,044	5,959	2,253
146-10	Peanut butter	460	635	649	455	474	399	282
146-49	Food flavourings & colourings	3,663	4,838	5,209	8,636	12,084	33,179	8,316
146-99	Food preparations nes	9,576	35,255	10,470	20,199	40,201	34,284	10,271
171-99	Non-alcoholic beverages	5,286	7,272	7,845	7,467	9,949	10,837	6,280
172-20	Ale, lager, porter and stout	89,865	106,889	131,839	141,141	159,427	164,827	83,798
172-99	Fermented alcoholic bev. nes	796	942	1,014	1,279	849	1,447	1,032
173-20	Gin	138	164	697	356	113	252	58
173-41	Whisky in bulk	84,345	92,372	90,687	89,889	98,662	101,530	44,789
173-49	Whisky nes	224,624	253,384	246,500	250,696	264,480	250,442	96,954
173-99	Distilled beverages and spirits nes	3,457	2,582	7,302	13,767	24,718	10,680	7,111
	TOTAL	595,392	695,027	715,707	759,057	899,551	929,802	430,035

(a) January to June.

Source: Statistics Canada, Cat. Nos. 65-004, Exports by Commodities and 65-202, Exports: Merchandise Trade.

APPENDIX TABLE 25: DUTIES COLLECTED ON NATURAL SWEETENERS AND SUGAR CONTAINING GOODS, 1980 AND 1985

	1980	1985
	- $'000 -	
Raw Sugar:	1,692	1,538
Processed Natural Sweeteners:		
Refined Sugar (granulated)	193	2,887
Refined Sugar (syrup)	2	1
Total	195	2,888
HFCS and Glucose Syrup, n.e.s.	1,137	163
Dextrose	108	130
Total	1,245	293
Honey	8	8
Maple Syrup and Sugar	9	2
Total	17	10
TOTAL	1,457	3,191
Sugar Containing Goods:		
Non-alcoholic Products	37,353	69,689
Alcoholic Beverages(a)	9,391	105,596
Total	46,744	175,285

(a) Includes federal excise duties.

Source: Statistics Canada.

APPENDIX TABLE 26: SUGAR AND CORN SWEETENERS - CALCULATIONS OF THE COSTS AND BENEFITS OF AN INCREASE IN THE PRICE OF 1 Cdn.¢/lb.(a)

A. SUGAR

Consumer Costs

1. Increase in Consumer Costs on Sugar Consumption of:	1,072.3 tonnes
(a) Consumption x Price = (1,072.3 x 2.38 ¢/kg)	$25,520,740
(b) Consumption x Markups(b) = (1,072.3 x 0.92 ¢/kg)	$ 9,865,160
TOTAL CONSUMER COST	$35,385,900

Direct Financial Benefits

2. Increase in Customs Revenues and/or Exporters' Revenues 979,967,000 kg x 2.38 ¢/kg	$23,323,215
3. Increase in Income to Beet Growers and/or Processors 92,333,000 kg x 2.38 ¢/kg	$ 2,197,525
4. Increase in Value of Sales at Wholesale and Retail Level 1,072,300,000 kg x 0.92 ¢/kg	$ 9,865,160
TOTAL	$35,385,900

B. CORN SWEETENERS

Consumer Costs

1. Increase in Consumer Costs on Corn Sweetener Consumption of:	361.2 tonnes
(a) Consumption x Price (361.2 x 1.79(c) ¢/kg)	$6,465,480
(b) Consumption x Markups (361.2 x 0.70 ¢/kg)	$2,528,400
TOTAL CONSUMER COSTS	$8,993,880

Direct Financial Benefits

2. Increase in Sales Revenues to Domestic Producers of Corn Sweeteners 318,917,000 kg x 1.79 ¢/kg	$5,708,614
3. Increase in Export Receipts to Foreign Producers 42,283,000 kg x 1.79 ¢/kg	$756,866

APPENDIX TABLE 26: (CONCL.)

Direct Financial Benefits (cont'd.)

4. Increase in Value of Sales at Wholesale and Retail Level	
361,200,000 kg x 0.70 ¢/kg	$2,528,400
TOTAL	$8,993,880

(a) Equivalent to 2.38 ¢/kg.
(b) Assumes wholesale markup of 10.9% and retail markup of 25%.
(c) Assumes a 25 per cent discount on the price of sugar.

Source: Tariff Board.

APPENDIX TABLE 27: SUGAR AND CORN SWEETENERS - CALCULATIONS OF THE COSTS AND BENEFITS OF AN 18 Cdn.¢/lb. FLOOR PRICE(a)

A. SUGAR

Consumer Costs

1. Increase in Consumer Costs on Sugar Consumption of:	653,700 tonnes
(a) Consumption x Price Increase = (653,700,000 kg x 14.28 ¢/kg)	$93,348,360
(b) Consumption x Markups(b) = (653,700,000 kg x 5.52 ¢/kg)	$36,084,240
TOTAL CONSUMER COST	$129,432,600

Direct Financial Benefits

2. Increase in Customs Revenues and/or Exporters Revenues 594,606,880 kg x 14.28 ¢/kg	$84,909,864
3. Increase in Income to Beet Growers and/or Processors 59,093,120 kg x 14.28 ¢/kg	$8,438,496
4. Increase in Value of Sales at Wholesale and Retail Level 653,700,000 kg x 5.52 ¢/kg	$36,084,240
TOTAL	$129,432,600

- -

B. CORN SWEETENERS

Consumer Costs

1. Increase in Consumer Costs on Corn Sweetener Consumption of:	779,800 tonnes
(a) Consumption x Price Increase = (779,800,000 kg x 10.74(c) ¢/kg)	$83,750,520
(b) Consumption x Markups (779,800,000 kg x 4.20 ¢/kg)	$32,751,600
TOTAL CONSUMER COSTS	$116,502,120

Direct Financial Benefits

2. Increase in Sales Revenues to Domestic Producers of Corn Sweeteners 737,517,000 kg x 10.74 ¢/kg	$79,209,324
3. Increase in Export Receipts to Foreign Producers 42,283,000 kg x 10.74 ¢/kg	$4,541,196

APPENDIX TABLE 27: (CONCL.)

Direct Financial Benefits (cont'd.)

4. Increase in Value of Sales at Wholesale and Retail Level 779,800,000 kg x 4.20 ¢/kg	$32,751,600
TOTAL	$116,502,120

(a) Calculated on a comparison with a price of raw sugar of 12 Cdn.¢/lb.
(b) Assumes a wholesale markup of 10.9% and a retail markup of 25%.
(c) Assumes a 25 per cent discount on the price of sugar.

Source: Tariff Board.

ANNEX A

SUGAR

- An Historical Background -(a)

World consumption of sugar expanded rapidly in the early years of the present century, but not sufficiently to keep pace with increases in production. Much of the production increase had been stimulated by the subsidies and bounties provided by governments of continental European countries to their sugar beet producers and, as a result, stocks of sugar began to accumulate and prices began to fall. By 1914, for example, the price of refined sugar in the United States averaged a little over 4.5 U.S. cents a pound and, but for the coming of the first world war, might have fallen even further. The mobilization of armies deprived the European farms and mills of their labour force and much of the sugar beet producing area was devasted. The decline in European beet sugar production was rapid and sugar became a scarce commodity. Germany was the world's leading sugar producing country in 1914 was an output of three million short tons; by 1920, its output had dropped to 1.2 million tons. This decline reflected a general trend in Europe, where the total production dropped from 9.2 million tons in 1914 to 4.2 million tons in 1920. Prices soared.

Increasingly, the Allied Powers turned to the supplies of raw cane sugar which were obtainable from areas far removed from the hostilities. Outstanding among these was Cuba, which increased its production from about three million tons at the beginning of the war to some 4.5 million tons by the end. Many other sugar cane producing countries increased their output, but on a lesser scale than in the case of Cuba. The net increase in all countries amounted to roughly 2.0 million short tons and the total world production of cane sugar increased from about 8.5 million to almost 10.5 million tons, a very substantial increase but far short of the decline in output of beet sugar. The result of these changes was that world sugar production, both cane and beet, declined from 18.4 million short tons before the war to 15.9 million at the end.

(a) Excerpt from Tariff Board Reference No. 146, Report by the Tariff Board Respecting Sugar, July 20, 1971, pp. 6-13.

By the end of the first world war the geographical distribution of production had been changed quite dramatically. Before the war, Europe produced about one half of the world's sugar; by 1920, its share had dwindled to a mere 26 per cent of the total. The Caribbean region accounted for 22 per cent of the world's output at the beginning of the war but, by 1920, had increased its share to 35 per cent. Immediately before the war, beet sugar accounted for more than one-half of the total supply; by 1920, the proportion was just over one-third.

In the early post-war years, governments gradually removed their restrictions on the distribution of sugar, but European production continued to decline. At the same time, the various war-time systems of price control were wound up and the rising demand coupled with falling supply, made for spectacular price increases. In the U.S.A., during the period of government controls, the price was fixed at nine U.S. cents a pound for refined sugar; by May 1920, after the removal of price restrictions, the price of raw sugar rose to 22½ U.S. cents a pound and the price of refined sugar rose correspondingly.

This was a period of great prosperity for sugar cane producers; in Cuban economic history it is referred to as the "dance of the millions". This did not last. The high prices which prevailed in the U.S.A. attracted sugar from all parts of the world. In the summer and fall of 1920 prices weakened and then fell catastrophically. From the 22½ U.S. cents a pound, which Cuba was obtaining for raw sugars sold in the U.S.A., in May 1920, the price fell to 3 5/8 U.S. cents a pound by December 1920; by 1921, the price was below two cents a pound. In that year, Cuban sugar producers organized themselves into a cartel in an attempt to maintain prices, but it is doubtful whether it had any appreciable effect. In 1922, the improvement in economic conditions in Europe increased the demand for sugar and prices began to rise again.

Meanwhile, in Europe, most countries had responded to the shortages and the high prices of sugar by rebuilding their domestic beet sugar industries. The Brussels Agreement, signed in 1902, which bound most European countries to eliminate all direct and indirect bounties on the production or export of sugar, had been in abeyance during the war and, in any case, terminated officially in 1919. France, Germany, Belgium and Austria began to reinstate import duties on sugar which, under the Agreement, had been previously revoked. Other European countries also increased their duties on foreign sugar and instituted two-price systems which allowed domestic producers to obtain high prices in their home market to offset export sales at low prices. In 1919, the British Government granted a duty preference on sugars imported from its colonies and five years later, legislation was enacted giving British sugar beet growers a subsidy.

Canada had been the first Commonwealth country to institute preferential tariffs on sugar. The margin of preference was 17.875 cents per 100 pounds at the turn of the century and 23.8 1/3¢ per 100 pounds from 1900 to 1906. In 1906, the margin was reduced to 20½ and again, in 1913, to 16.75¢, per 100 pounds, but was raised at the outbreak of the first world war to 33.75¢ a hundred pounds. In April 1921 the margin of preference was again increased sharply, to 83.712 cents a hundredweight and in 1926 to $1.00, the existing preferential margin per 100 pounds of 96° raw sugar.

By 1925 the Cuban crop had reached nearly six million short tons and stocks continued to rise and prices to decline. In 1926 and again in 1927, the Cuban Government limited production, first to 5½ million tons, then to five million. This action gave some temporary relief, but the outlook was far from bright. Production continued to increase in the rest of the world and its rate of growth still exceeded that of consumption. Once more, in 1928, Cuba restricted her crop, this time to 4.5 million tons. This action met with little or no co-operation from the rest of the world and Cuba let her 1929 crop increase without hindrance and, as a result, it almost equalled the 1925 record of nearly six million tons. In July of 1929 a Cuban delegation visited Europe in an attempt to awaken interest in a plan for the co-operative curtailment of production, but little was accomplished. Prices continued to fall and in September 1930 they reached one cent per pound of raw sugar, cost and freight paid basis, at New York.

As the result of these developments the world was again facing a position of serious over-production of sugar by 1931. World production had reached almost 28 million tons and Europe had increased her share of this total to 40 per cent compared with 26 per cent in 1920. The share of the Caribbean-region countries fell from 35 per cent to 20 per cent. These changes reflected the increased share of beet sugars, which rose from 34 to 45 per cent of the world's production between 1920-21 and 1930-31. The position was aggravated by the geographical imbalance of supply and demand. Continental Europe had achieved a position as a marginal net exporter of sugar while the contries with sugar-dependent economies, principally in the Caribbean area, had few outlets for their production outside North America and the United Kingdom.

In November 1930, largely through the initiative of Mr. Thomas L. Chadbourne, a New York attorney representing Cuban sugar interests, a series of conferences of sugar producing nations were held and, as a result, an International Sugar Agreement was signed on the 9th of May, 1931, in Brussels. The signatories were Cuba, Java (later Indonesia), Czechoslavakia, Germany, Poland, Belgium and Hungary. Cuba and Java were the principal exporters of raw cane sugar; the last five were the principal beet sugar producers in Europe. Together these countries represented nearly 45 per cent of the world's sugar production and accounted for 85 to 90 per cent of the sugars exported to "free" world markets - those in which prices were not controlled by special arrangements. The Agreement fixed the maximum quantities which could be exported by each of the signatory countries for a period of five years ending September 1st, 1935 and stipulated when and how export quotas could be raised. During the five-year term of the Agreement world sugar stocks dropped from a peak of 13 3/4 million tons to approximately 10 million and the increase in world production was halted. Despite this, the plan was not considered to be successful in lifting world prices to a profitable level. Its failure to do so was ascribed to the lack of co-operation by non-signatory countries.

To comply with the Agreement, Cuba limited its 1933 crop to 2 1/4 million tons compared with a production of 5.8 million tons in 1929; and Java gradually reduced its crop to about 700,000 tons, by 1935, compared with 3.3 million tons in 1931. The five European countries reduced their joint outputs from nearly 5 1/2 million tons to less than 3 million tons, by 1933. Despite these drastic measures, the industry remained seriously depressed as a consequence of low prices. The economic conditions of the early 1930s not only curtailed spending power throughout the world, but also resulted in a wave of economic nationalism. In the case of the minor sugar producing countries, this nationalism frequently took the form of attempting to gain self-sufficiency in sugar.

On the 25th of April 1934, the U.S. Congress passed the Jones-Costigan Amendment to the Agricultural Adjustment Act, which included provisions for a quota system on imports and a processing tax of one-half cent a pound on raw sugar, to support a program of benefit payments to domestic cane and beet sugar producers conditional on crop curtailment and other requirements on the part of producers. Simultaneously with the imposition of the processing tax, the duty on Cuban raw sugar was reduced initially from 2¢ U.S. to 1.5¢ U.S. per pound and, later that year, to 9/10 cent per pound. Conditions in the sugar industry in the U.S.A., its possessions and Cuba improved. The Jones-Costigan Amendment of 1934 was followed by the Sugar Act of 1937 which largely re-enacted the conditions of the Amendment.

By the change in British tariff rates in 1919, the British Caribbean countries had received the benefit of preferential tariff treatment on sugars exported to the United Kingdom; in addition, they had also benefitted from the increased margin of preference on sugar exported to Canada after April 1921. Nevertheless, the economies of these countries had suffered severely as the result of the declining prices in the latter part of the 1920's. In 1932, the United Kingdom increased the margin of preference granted to British Colonial producers relative to all other suppliers of sugar, including Dominion suppliers, for reasons of social policy. In order that the increase in the United Kingdom preference should not merely divert West Indian sugar from

Canada to the United Kingdom, the British Government imposed quotas on imports of sugar entitled to these preferential rates of duty. These special quotas amounted to a substantial proportion of the total sugar production of these countries and, since they were revised upwards, in most years they constituted a strong incentive to increase the output in these areas.

In January 1937 the League of Nations extended invitations to 22 of the leading producing and consuming countries to attend a world sugar conference which was held in London on the 5th of April that year. This conference negotiated an International Sugar Agreement which was to remain in force for five years beginning September 1937. The document was signed by 21 nations which, together, accounted for approximately 85 per cent of the world's sugar production and for about 88 per cent of the world's sugar consumption.

In effect, the 1937 Agreement placed the principal exporting countries of the world on a quota basis, discouraged excess production and provided for the reduction of accumulated stocks. Another important feature was the provision for co-operation between the principal exporting and consuming countries. By the time the U.S. Sugar Act of 1937 and the London International Sugar Agreement became effective, plantings of sugar cane and beets were sufficiently large to produce a crop of over 34 million tons, a world record at that time; cane accounted for approximately two-thirds of the total. The large production in the 1937-38 season again proved too much for the demand at the then current prices, and prices sagged.

The operation of the International Sugar Agreement was overtaken by preparations for the second world war and, by the end of 1939, almost every country in the world had some form of emergency control of sugar and the Agreement was ignored.

From the outbreak of war in 1939 to the end of 1941, ample supplies of sugar were available in the major exporting countries. Among the principal importing countries, Britain was more concerned with the allocation of its exchange reserves and shipping space than the procurement of sugar. The invasion of Holland, in 1940, had the effect of making large stocks of sugar available in Java. Thus, for the first eighteen months of the war, the United Kingdom had no difficulty in obtaining from Commonwealth sources and from Java, all the sugar for which it was prepared to allocate foreign currency and shipping space. By 1941, the scarcity of shipping forced the United Kingdom to concentrate on sources relatively close at hand for its imports of sugar. The U.S.A. was not yet involved in hostilities and her traditional overseas supply areas were not, at that time, cut off by the war.

Meanwhile, the major sugar beet producing areas of western Europe had been overrun by the Axis Powers, as had the Ukraine, which was responsible for the bulk of the production in the U.S.S.R. Following the entry of Japan into the war in December, 1941, the sugar producing areas of the Philippines and Indonesia were also denied to the Allied Powers.

By 1942, sugar available to Allied governments had been drastically reduced and the position was further aggravated by the complications involved with the loss of the major rubber exporting areas of Indonesia and Malaya. The loss of these areas led to the establishment of a large synthetic rubber industry which required large quantities of alcohol and, therefore, created a heavy demand for sugar for its manufacture. Thus, in spite of a record crop of beet sugar in the U.S.A. in 1942, rationing was introduced there, in May of that year.

Canada also introduced rationing and price control of sugar at about the same time and sugar was rationed from July, 1942 to November, 1947. In addition, Canada suspended all tariffs relating to raw sugar for refining from April, 1942 to November, 1947.

In view of the acute shortage of shipping space, the United Kingdom turned almost exclusively to the Caribbean area as its source of raw sugar supply. With the Philippines and Indonesia under Japanese control and with a difficult general situation with respect to Pacific Ocean shipping and, therefore Hawaiian supplies, the U.S.A. and Canada also turned largely to the Caribbean for raw sugar supplies. During the latter part of the war sugar supplies to Britain, the U.S.A. and Canada were allocated by a three-nation Combined Food Board.

Hostilities ceased in Europe in May, 1945, and in Asia in the following August. The 1945-46 world sugar crop was less than 23 million tons, the smallest in over two decades. European output dropped to less than 5½ million tons, little more than half the normal pre-war crop and production in Asia amounted to about six million tons compared with over ten million immediately before the war. In these circumstances sugar rationing and price control were maintained in most countries. The U.S.A. continued to buy the exportable surplus of Cuban output and the United Kingdom purchased the Dominican and Haitian exports as well as the sugars available from Commonwealth countries, for Canada and itself. Both the United Kingdom and the U.S.A. were paying about 5 U.S. cents a pound, or a little less, for raw sugar at this time.

The Combined Food Board (of the U.S.A., the United Kingdom and Canada) was succeeded by the International Emergency Food Council of nineteen nations, in 1946. Subsequently, six more nations were added to the Council. This body continued to allocate foods which were in short supply, including sugar, on an international basis. Peru, with sugar exports of about 336,000 tons, was the only important sugar-exporting country which remained outside the international control. Sugar in the free world market fetched much higher prices than under the international allocation, often as much as 15 U.S. cents a pound for refined sugar.

The world shortage of sugar, together with the assurance of the International Emergency Food Council that all that could be produced would be sold at remunerative prices, was a stimulus to increased planting. In the 1947-48 season total world production rose to 28.7 million tons, compared with 22.0 million tons in 1945-46 and Cuba harvested a record of 6.7 million tons. The improved supply position led the U.S.A. to abolish consumer rationing in June 1947 and industrial rationing in August. As noted, Canada ended rationing of sugar in November, 1947.

Although 1947-48 world production was still somewhat below the pre-war average, the Western Hemisphere was producing almost four million tons more than it did before the war. Asia, principally Java, the Philippines and Formosa, had as yet shown few signs of the restoration of normal conditions in sugar production. Europe, on the other hand, had made a substantial recovery although available supplies were still substantially below requirements, because of the acute shortage of dollars which impeded purchases from the regions where surplus sugar was available. By the 1949-50 season, Europe was producing 30.7 per cent of the world output of sugar compared with about 35.2 per cent before the war and the Caribbean region was producing 31.0 per cent of the total compared with 20.2 per cent pre-war. Each of the other main world regions except Africa and South America, both of which were relatively small producers at that time, were producing a smaller proportion of the world total than they did before the war.

Post World War II Developments

The recovery in world sugar production from the effects of World War II appears to have been completed by 1950, when the pre-war production was surpassed with a world output, in 1950-51, of 37 million short tons. Production continued to rise rapidly until, in 1969, it amounted to 76.8 million tons.

The most prominent feature of the post-war period was the division of world markets into zones based on some form of restricted entry. The U.S. quota system, originally introduced in 1934, allocated quotas to U.S. cane and beet sugar producers, both on the mainland and in Hawaii, the Philippines and Puerto Rico as well as to foreign suppliers. Since 1960, the large quota formerly allocated to Cuba has been re-allocated to a number of countries, many in the Caribbean and South America.

During World War II, the United Kingdom bought all the exportable surplus of sugar from Commonwealth countries; after the war and after lengthy discussions, the Commonwealth Sugar Agreement was signed in London, in 1951. Under this agreement the United Kingdom agreed to purchase specified quantities of sugar from each territory at prices fixed at the level declared to be reasonably profitable to an efficient producer. In addition to the negotiated price quotas, over-all export quotas to British preferential markets are fixed, which the producing countries undertake not to exceed.

The sugar trade between France and her overseas departments and territories are considered to be internal transactions. From the 1954-55 season to the 1957-58 season, production quotas were established on the basis of the then current requirements. Beginning with the 1958-59 season a new approach was adopted. A production goal of 2.2 million tons of refined sugar was allocated to the producing areas of the French Community, which includes France, Guadeloupe, Martinique, Réunion, French Guiana, French Somaliland, and French Oceania. Individual production targets vary from year to year, but the total must not decline below two million tons. Since 1953, an organization has been operating to equalize prices obtained from the sales within the French Community and from exports to the free market. A storage fund financed by a levy on sugars produced was established in 1957. This fund makes payments to sugar manufacturers and refiners on all sugar produced within the target quota of two million tons, which is held in stock or is enroute to metropolitan France; no payments are made for sugar produced in excess of the quota although such excess sugar remains subject to the levy.

Angola and Mozambique produce practically all the sugar consumed by the Portuguese economic system. The Portuguese Minister of Economic Affairs estimates the consumption requirements each year and limits imports accordingly. The government annually sets the prices of raw white crystal sugar produced in Angola and Mozambique.

The socialist countries regulate much of their trade in sugar by a series of trade agreements; these are concerned principally with the allocation of the Cuban crop among the socialist countries.

World production of centrifugal sugar rose from under 58 million short tons, in 1960, to nearly 77 million tons, in 1969. The British preferential countries increased their share of this total, very slightly, from 15 per cent in 1960 to 17 per cent in 1969. Since 1960, there has been a small but noticeable change in the composition of the total production; in 1960, beet sugar accounted for 43.7 per cent of the total world production; by 1969 it had risen to 44.4 per cent. The position was somewhat different among the British preferential countries in that the proportion of beet sugar of the total was not only very much lower, but it dropped significantly, from 15 per cent in 1960 to 11 per cent in 1969.

The world trend has been towards a somewhat greater self-sufficiency with respect to sugar; world exports amounted to 37 per cent of world production in 1960 but the proportion had dropped to 29 per cent, by 1969. The British preferential countries departed from the over-all pattern, in that production rose by much more, 54 per cent compared with 33 per cent; to a large extent this has been due to the increased production of Australia and South Africa. However, although total B.P. exports increased by more than one million tons, in this period, the proportion of the production which was exported, dropped from 43 per cent in 1960 to 37 per cent in 1969.

Thus, the world production of sugar has been rising and that of British preferential countries has been growing at a more rapid rate than the world total. Beet sugar has formed an increasing proportion of the over-all total and by 1969, had come to represent over half the output of the non-British preferential countries. However, in the British preferential countries, beet sugar had never been of much importance and its relative contribution has declined in recent years.

In Canada, production of sugar, all beet, fell by six per cent duirng the 1960's, from 168,000 tons in 1960 to 158,000 tons in 1969. However, the period also saw a rise in consumption of 39 per cent, from 852,000 to 1.2 million tons. The percentage rise in Canadian domestic consumption between 1960 and 1969 was almost the same as that of world consumption, of 40 per cent.

During the 1960's, world net exports actually decreased by one per cent, reflecting the trend to greater self-sufficiency and the rapidly rising world levels of consumption. Exports by B.P. countries did not follow the general trend and increased by 1.14 million tons during the decade, a rise of 31 per cent. However, the premium-price markets available to B.P. exporters, under Negotiated Price quotas in Britian and under the U.S. Sugar Act quotas in the U.S.A., increased by 625,000 tons, between 1960 and 1969 and accounted for 55 per cent of the additional exports of B.P. countries and the increase in Canadian consumption accounted for a further 29 per cent. Thus, although exports by B.P. countries have increased fairly substanially, in the past decade, the demand for these supplies also has increased substantially.

ANNEX B

Correspondence Regarding Possible Time Extension

During the December public hearing there was considerable discussion concerning the complexity of the issues and the Board's requirement for more time to study the matter. The following correspondence between the Chairman and the Minister is reproduced below in order to complete the public record with respect to this matter.

December 8, 1986

My dear Minister:

SUBJECT: REFERENCE NO. 164, NATURAL SWEETENERS -
EXTENSION OF TIME

At the Board's hearing on this reference, held December 2, 3 and 4, 1986, a public statement was made that you would be asked to give the Board more time to complete its work.

The statement was made by Mr. Peter Clark on behalf of:

The Ontario Corn Producers
The Canadian Sugar Beet Producers' Association
Casco Company

These are the people advocating change in the existing sweetener policy and, therefore, with the most interest in speedy completion of the reference.

Subsequently, the representative of the Canadian Sugar Institute told me that the cane sugar refiners would not object to the Board being given more time to complete its work.

The recent hearing was very productive. Twenty-three organizations or countries presented briefs, and some important new information was revealed. Over 100 organizations had previously written expressions of interest to the Board.

I believe, quite strongly, that the Board can do a far better job on this reference, now scheduled to be completed on March 29, 1987, if it were to be authorized to complete its work by the end of June.

We would adopt the following schedule:

Issuance of final staff report	March 14
Final Board hearing on the report	April 29 & 30
Final report approved by Board	May 30
Formal report translated, printed and delivered to the Minister	June 30

This timetable will allow parties time to complete and supply additional information requested at the hearing, and the Board to enable the fullest public discussion of the advantages and disadvantages of each of the possible options before the final report is prepared for you.

This will ensure that, to the greatest extent possible, the report is complete, balanced and accurate.

I recommend that you extend to June 30, 1987, the time allowed for the Tariff Board to submit to you its report on Reference No. 164, Natural Sweeteners.

Yours sincerely,

Donald R. Yeomans,
Chairman

January 23, 1987

Dear Mr. Yeomans:

I refer to your letter of December 9, 1986 and to our telephone conversation of January 16, 1987. As I indicated, after very careful consideration, I have decided against the extension of the Tariff Board's enquiry into the Canadian natural sweetener industries. I would therefore ask that the Board adhere to the timetable originally envisaged in the letter of reference sent to you by my predecessor, the Honourable Barbara McDougall, in June of last year and complete its work and report by March 27, 1986.

My decision was based on several fundamental considerations. I am, of course, aware of the climate of uncertainty facing all interest groups who stand to be affected by decisions flowing from the Board's study. Sugar beet farmers and corn growers, as well as sugar refiners, the high fructose corn syrup producer, industrial users of sweeteners and consumers would, I am sure, all benefit from the speedy resolution of this matter. I was concerned that any long-term extension would exacerbate this climate of uncertainty.

I was also struck by the comprehensive nature of the Board's enquiry process which has included the preparation of statistical background documents and questionnaires, two public hearings, the submission of formal briefs by interested parties and field visits to allow panel Members to familiarize themselves with the technical aspects of the Canadian natural sweetener industries. I note from your letter that twenty-three organizations or countries presented briefs at the December hearing and that over 100 organizations had previously written to the Board on this matter.

Not only has the enquiry process been a very thorough one, but I have also received comments on the commendable work of those Members conducting the enquiry, on the quality of the background papers and on the astute questioning by Board Members during the hearings.

Under the circumstances, it is not clear what additional benefits would be derived from an extension and a third round of hearings. Moreover, a number of participants have raised concerns about the costs associated with the preparation of briefs and with other work that would arise if the enquiry were extended. While these costs may be marginal for some interest groups, they are real and significant for others. Those that the Board itself would incur should not be ignored.

In conclusion, I would like to acknowledge the very professional manner in which the Board is conducting this enquiry and ask that you endeavour to meet the original March report deadline. I would, of course, be prepared to consider an extension of a week or two beyond this deadline should you feel it necessary; any longer term extension would not, in my view, be in the best interests of those who stand to be affected by this enquiry process.

Yours sincerely,

Tom Hockin

ANNEX C

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